THE CITY OF NEW YORK
POLICE PENSION FUND
REQUEST FOR PROPOSALS

TITLE: SYSTEM IMPLEMENTATION-COMPREHENSIVE OFFICER PENSION SYSTEM (COPS 2.0)

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PART A GENERAL INFORMATION AND PROCUREMENT INFORMATION

A.1 GENERAL INFORMATION

A.1.1 PURPOSE AND SCOPE OF THIS PROCUREMENT

The New York City Police Pension Fund (the Fund) is soliciting proposals from public retirement system implementation Offerors for a fully-hosted, new integrated pension administration solution. The contract to be awarded, as a result of this solicitation, will be for the following: a Fund-hosted, line-of-business (LOB) application software, including imaging and workflow, documentation, testing, implementation, integration, training, warranty, and post-implementation support until such time as support can be assumed by the Fund.

The Fund will award this contract to the Offeror who can best meet the requirements as defined in this Request for Proposal (RFP). To be considered, the Offeror's proposal must detail a new solution that includes the following: Core line-of-business (LOB) functions, which include the applications that permit the system to perform all of its operations as defined by the requirements contained within this RFP

- Technology enablers of workflow, imaging, correspondence generation, search capabilities, etc.
- Support for the execution of all processes required in accordance with the Fund's policies that are in effect on the day of contract execution
- Redesign of the Fund's current business processes as necessary to increase processing efficiency and take best advantage of the LOB solution
- Browser-based access to the solution for the Fund's users (both internal and external)
- Internet-based (with mobile device accessibility) self-service functionality to improve access to the solution for members, retirees and other stakeholders
- Conversion and transformation of the Fund's data
- Enablement of all required interfaces with other entities with which the Fund interfaces (both existing and newly identified)
- Standard reports, custom-developed reports and ad-hoc reporting capabilities
- Thorough test and quality assurance of the entire solution
- A warranty that starts with the rollout of the first functional capability and concludes twelve months after the rollout of the final capability
- Integration with the Fund's financial system
- Conversion and upload of existing retiree image files and member digital folders.
- Specification of the hardware and commodity software necessary to support all parts of the pension solution
- An "optional item" to procure the specified hardware and commodity software
- An " optional item" to procure and rollout an Integrated Voice Response (IVR) system
- Full disaster recovery capability

Offeror will also be responsible for:

- Providing the Fund-specific manuals and documentation for system users and administrators; in addition to all baseline functionality. All such documentation must reflect the customized, as-built status of the solution. Standard documentation reflecting only the Offeror's un-customized base solution will not be acceptable
- Providing training for system users in application navigation and the use of screens and windows, as well as in the use of the new solution to perform their various job functions, processes, and sub-processes in the new environment
- Configuration of the pension administration software
- Providing necessary software customizations to meet business and functionality requirements
- Providing full implementation of the new solution (including as-built documentation of system configurations and customizations)
- Providing ongoing software support for the new pension administration solution during the implementation and warranty period as provided herein
- Providing project management services for the implementation effort as provided herein
- Providing the required infrastructure and environments needed for the new solution during the project and post-implementation, including the maintenance and upgrade of such items as part of the hosting agreement.

The objective of this RFP is to elicit a response from Offerors for the implementation of the new solution. This RFP articulates the functional, technical, and expectations of the new integrated pension administration solution.

The Offeror's response will be organized into 34 "Artifacts." These Artifacts are more fully defined in Part E of this RFP. Wherever this RFP states that the Offeror must provide information to the Fund as part of its proposal, this RFP will indicate in which Artifact that information should be provided. If a request for Offeror information appears in the RFP without an indication as to in which Artifact it should be provided, Offeror should use its best judgement and include that information in the most appropriate Artifact.

The RFP also specifies the required format of an Offeror's response and the time frame to enable the Fund to rate the Offeror's solutions and to make its choice.

A.1.1.1 Project Vision

The Fund's vision is to replace the current pension administration system with a solution that can fully serve the Fund's staff, its members and other stakeholders. The solution shall enable the Fund to progressively add new functionality and benefit tiers and continuously keep the solution current as both technologies evolve and the needs of the Fund change. This project is intended to improve business processes, automate and integrate currently performed manual and work-around tasks within the new pension administration system, streamline processing with the use of imaging and workflow technology, and electronically connect the Fund with outside third-parties with whom the Fund conducts business; and be positioned to evolve and upgrade the new solution to support the Fund well into the future.

The Fund expects to complete the project in the following six (6) high-level phases:

- Project Initiation and Start-up
- Infrastructure, Hardware and Software Setup and Hosting (or Non-Hosted, On Premise Solution)
- Requirements Confirmation
- Phased rollout of functionality (Note: The following list of functional rollouts is provided as a sample. Offerors are encouraged to provide [Artifact I-13, Draft Functional Rollout Plan] a different set of functional rollouts).
    - Rollout #1: Imaging and back-file conversion and high-level workflow
    - Rollout #2: Pension Payroll, Disbursements and Retiree Maintenance and detailed workflow
    - Rollout #3: Active Membership and detailed workflow
- Post Implementation Support
- One (1) Year Warranty.

A.1.2 About The Fund

The Fund was incorporated and commenced business on March 29, 1940. This incorporation succeeded the Police Pension Fund Article 1, established for uniformed members of the NYPD prior to 1940. By legislation enacted in 1995, Article 1 was merged into the Fund. In 2001, legislation provided Corpus Funding for the Fund to begin operations in September, 2002 at its new location at 233 Broadway in New York City. The Fund is governed by the Board of Trustees consisting of labor and city representatives. The Comptroller of the City of New York is Custodian of the funds of the System, and by delegation of the Board of Trustees, has the power to invest those funds. The Executive Director is the chief administrative officer of the agency. The Chief Actuary for the City of New York provides actuarial services to the Fund. The Office of Corporation Counsel provides legal services to the Fund.

The Fund is a defined benefit plan that manages the Fund's invested assets and pays out benefits according to formulas set forth in New York State and New York City laws. In general, Tier 1 and 2 members are governed by Title 13 of the New York City Administrative Code ("AC NY"), and Tier 3 members are governed by Article 14 of the New York State Retirement and Social Security Law ("RSSL"); both are governed by the Rules of the Fund and certain other applicable statutes.

A.1.3 FOUNDATIONAL PENSION ADMINISTRATION SYSTEM "BEST PRACTICES"

Below we provide a list of the best practice principles upon which the Fund believes a new, state of the art, pension administration solution will be based:

- The principles explain, in part, to the Offeror community that their solutions, as proposed, as designed, and as implemented, must be based on and adhere to these principles
- Further, the principles will be used as a basis for review of:
    - The language supplied in the Offeror's proposal describing their solutions
    - Any system, module, or interface designs proposed by the selected Offeror at each design review
    - Review for compliance and the Fund's acceptance of the ultimately implemented solution as built by the selected Offeror

The expectation is that Offerors, understanding the Fund's principles of best practices, would not implement a single module without having first passed a stringent internal (to the Offeror) and subsequent client (the Fund) review of any proposed design. The goal of this approach is to give the Offeror flexibility in how they would implement a solution that best fits the Fund's requirements without having the Fund have to specify each step in each work process that must be part of the final solution.

However, the Offeror should note that these "Best Practices" as described below, are not specific business requirements for the Fund's pension administration solution. They provide the context within which the business, functional, and technical requirements that appear later in this RFP have been developed. If the Offeror will not be embracing these principles, the lack of embrace must be identified and explained in the Exceptions Section.

The list of public pension retirement system best practices principles includes:

1. Uncompromised Customer Service
2. Image Documents on Receipt
3. Deliver Work via Embedded (Integrated, NOT Bolted-On) Workflow
4. Management by Objective (Metrics)
5. Reuse Program Modules (Single Engine)
6. Fully Parameterize the Solution
7. Strive for Straight-Through Processing (STP)
8. Optimize Auditing
9. Ensure Application of Enhanced System Security Principles
10. Flexibility and Thoroughness in Member Communications
11. Maximize Opportunities for Member Self-Service
12. Implement Proactive Member Services (Life-Event Planning)
13. Single View of the Member/Retiree

14. Member-Centric Process Improvement
15. Outsource Data Entry (to Members and to 3rd Parties)
16. Enhanced Management Reporting
17. Appropriate use of Existing and Emerging Technologies.

A.1.3.1 Image Documents on Receipt

This principle is actually more expansive than simply scanning on receipt. No retirement analyst (or anyone else in the agency except for those in the mail room/print shop) should ever work with paper documents. Any documents that come into the Fund should be scanned into the system on receipt and any documents that are produced as part of business processing (reminder letters, estimate forms, forms created as part of a fulfillment request, etc.) should be printed and prepared for mailing in the mail room (with corresponding automated storage of the print image into the main document repository without the need to print, scan, and index – it will be done automatically)[1]. Any business-related e-mails into or out of the agency should be captured and filed automatically, with the caution that receipt of an e-mail request, like the receipt of a paper-based, faxed, or web-portal request, will initiate the same work in the same manner, using the same processing principles and "engines." Expanding on these various media:

- **Imaging:** The Fund has recently embarked on an imaging project that has converted all paper-based retired member folders in the Fund's possession into imaged documents. Once the index data has been cleansed, the solution will provide immediate, simultaneous access to all member documents and will support scanning of documents as they come through the mailroom door.
- **Correspondence Generation and Management:** Correspondence with its members is a critical piece of the Fund's fulfillment of its duties as the provider of retirement services. While much of that correspondence today is paper-based, the goal is to move (to the extent possible) to electronic-based communication. (One example of how electronic features might replace features of the paper-based world is seen in monitoring a member's activity on the secure website; when they entered the site (and authenticated their identity), the fact that they accessed a web-delivered letter would be noted – and serve as a replacement for the required use of certified US Mail.) But regardless of the vehicle by which it is delivered, the correspondence must still be generated and captured in the member record. And if the member (as part of the definition of their communications profile) opts for electronic notification of the delivery of a new document, he or she will be given secure access to (with the ability to view, download and/or print) the single, electronic copy of the document in the repository.
- **E-mail:** E-mail is being used to manage an ever increasing share of the interaction with members and to a lesser extent, retirees. The requirements we have for correspondence generation and management pertain also to e-mail, but there are additional aspects of the capture of e-mails as noted below.

[1] We note that faxes that were formerly received on fax machines, printed, and subsequently scanned into the member record, should be managed by a fax server, retained in their image form and submitted to the indexing queue as if they were scanned documents.

The integrated use of these technologies has the potential to provide significant returns on the Funds investment while greatly decreasing the amount of paper that flows through the organization and simultaneously increasing staff member productivity. The following are examples of the concept's future system application:

- Imaging

  Simultaneous access to member folders by multiple users (including those in remote counseling sessions and possibly, authorized third parties).

  Efficient scanning, indexing, image quality assurance through well thought out design and implementation of the scanning process.

  Redesign of forms to accommodate bar-coding of form numbers and of information on turn-around and form-filled documents.

  Recognition of bar codes applied to all documents issued from within the Fund with as much of the known information (form number/type, member name and number if form downloaded from web, process location if a turn-around document) bar-coded as possible.

  Use image annotations to record user notes associated with a document.

  (Based on projected fax volumes), use a fax server to receive, index, and route faxes, avoiding the current process of receiving, printing and scanning of faxes.

- Correspondence Generation

  Automatically capture all system generated correspondence into the document repository. Format must be unchangeable (TIFF or PDF) so that it represents the material sent to the member. The system should be able to manage responses through the workflow management system, track the sending and receipt of correspondence, and close an activity when the appropriate letter is scanned to a member record.

  Automate the generation, population (with member data), and transmission (print and mail, e-mail or e-mail notification) of every piece of correspondence. Much of the ad hoc creation required for pattern letters should be eliminated through use of a keyed-in selection of a letter and a member identifier – or better, by having a transaction recognize the need for a letter and generating the same.

  Provide for semi-automated generation of more sophisticated correspondence (e.g., include one paragraph from among a set of three, the fourth and fifth and one from among the last set of five), still auto-populating fields where appropriate, but permitting selection for ex- or inclusion-specific paragraphs.

  In those rare cases where unique correspondence must be generated, the system will provide managed pop-up of a correspondence creation program (e.g., MS Word); use templates to ensure proper style and logos, and auto-capture to the repository of the transmitted document.

  Make business staff responsible for creation, modification, and upkeep of correspondence, with IT assistance where required, in order to give the most flexibility and expediency possible to the business units.

- E-mail

  We believe that e-mail use within the Fund has not been standardized. Currently, e-mail addresses are not kept as part of the member repository. There is no consistent maintenance of customer e-mail addresses.

  In the future system, a framework for receiving and transmitting secure e-mail with the Funds standards should be set. Where possible, e-mail should be actively used as a means of communication with our members.

  The cost of using postage (and occasionally registered mail and return receipts) incurred by many retirement systems is significant. The savings incurred by getting only half of the membership to utilize "green" e-mail communication will be significant.

  Outreach with customers regarding maintenance of e-mail addresses should be proactive and the use of techniques similar to those used by on-line marketers must become part of an ongoing effort to keep the e-mail addresses up-to-date. Part of this campaign to keep e-mail addresses current may mean more regular communication with members than has heretofore been the case.

A.1.3.2 Deliver Work via Embedded (Integrated NOT Bolted-On) Workflow

Currently, the Fund manually assigns tasks to staff. Assigning and prioritizing those tasks using an automated workflow system will allow the Fund to operate more efficiently, by re-routing work to address backlogs or peak times and by ensuring that all requests are processed in the order in which they were received (while still paying attention to mandatory filing periods), and will provide for automated delivery of the incoming work scanned under the previous principle. Received documents and forms should be scanned or entered into the workflow system and processes based on the associations in the system for particular images (i.e., form type). Working with the selected Offeror, the Fund will define the routes along which work passes and make some routing conditional on certain criteria and business rules, such as the need for a certain level of approval. In addition, staff should be able to query the workflow system to determine the status and location of particular types of work. Management will use system-generated data to analyze processing bottlenecks and reassign resources accordingly or to analyze employee performance.

A sometimes overlooked, but extremely important aspect of electronic workflow is that it must be tightly integrated into the pension administration solution. A user should not have to switch his or her focus (physical, on-screen, or mental) from one screen or window to another during processing. Instead, work should be delivered for processing, selected, and executed in a seamless set of operations, all in a single (or logical succession of) screen(s). And when a user has completed his or her processing of an item, they should not be required to "dispatch" that work item to another user (unless they are requesting some out of the ordinary operation such as a consult or review of their work); the embedded workflow system should recognize that the user's work is complete and automatically take care of any necessary "dispatching."

The following are examples of the concept's future system application:

- Work presentation via (role- or individual-based) queues

- Automatic assignment of work based on document type
- Automatic assignment of work to individual employees, allowing for selection (prioritized or first in/first out) from work queues, if applicable
- Queue management through aging of work items, increasing priority of work items, etc.
- Call center (and individual, interactive) ability to initiate and check on status of work
- Member ability (via a web portal or other such interface) to check on the status of any work requests they may have submitted (much as they can today check the status of an order they may have placed with an on-line retailer)
- Automatic suspension of work items when additional information is needed – upon receipt of that information, the system can automatically match that information with the appropriate suspended work item and return the work item to active processing
- Automatic reminders to standardize follow-up procedures
- Automatic management reporting on individual employee and work unit efficiency, cycle times, queue lengths, throughput, rework, etc.
- Business process reporting to identify bottlenecks or other processing trends – allowing for process redesign (permanent fix) or resource reassignment (temporary fix) to address the bottleneck
- The ability to simulate, redesign, test, and redeploy work processes

A.1.3.3 Management by Objective (Metrics)

The concept of Management by Objective (MBO) is a style of management that has waxed and waned in popularity as a means of setting finite performance objectives for organizations and individuals. One aspect of the work that is done in a retirement agency lends itself to this approach, as in, "Given your current staff, the Retirement Unit should process 41 retirements a month and none should be processed in more than ten days (from receipt of application to the entry of the pensioner on the payroll)." Obviously quantifying the production of articles to be published on the Fund's website is somewhat less easy to goal within an MBO approach, so the goals for operational units are sometimes very different from those of the support groups.

Nonetheless, during the past several years, the industry has seen increased use of metrics and quantifiable goals within public retirement funds. One of the key aspects of successful implementations is that the entire organization must buy into the goals. If one business unit has difficulty meeting its timeframes for one reporting period, members of other organizations should pitch in to help get the work done, knowing that they would be similarly assisted should they be in trouble later. Obviously, if a unit is a chronic offender, one cannot expect help every month; other steps such as increased staff, a change in management or process design or even occasionally a change in the goals would be appropriate.

Implementation of workflow will allow the Fund the opportunity to "instrument" its processes, measuring just about any of its processes at various levels of granularity. But the "instrumentation" does not just happen; an agency (with the assistance of the selected Offeror) will determine at design time what workflow steps will be measured – and how those measurements will be applied.

A.1.3.4 Reuse Program Modules (Single Engine)

This is one principle that should be obvious in principle, but is sometimes missed during actual implementation. A member who goes on-line to get a benefit estimate should receive exactly the same answer he or she would receive were they to go to the Fund for a counseling session, or were they to submit their request by e-mail or letter. And while benefit estimating is the most obvious example, the principle holds whenever implementing a service that might be accessed from more than a single point, e.g., a web interface, a remote agent, or a Fund desktop. In summary, the Fund expects that modules will be reused and not have the situation where the same processing, be it logic or calculation (for example) is effected by different areas of code or scripts.

A.1.3.5 Fully Parameterize the Solution

Over the past five to ten years, Offeror solutions have become increasingly parameterized and table driven, extracting constants from the code and placing them in tables so new releases of the system need not be coded, tested, and rolled out in response to legislative changes, changes in tax rates and actuarial tables, etc. In fact, the most recent advance in this area has been the incorporation of a rules engine into the solution so that an agency's complete set of business rules can be extracted from the system and managed through editing of English-like language statements of the business rules under which the agency operates. Some workflow Offerors have gone so far as to extract all business rules from their workflow implementation (where many of them traditionally reside, e.g., conditional routing, rate applications, etc.) and provide a separate business rule repository within which all rules can be managed. As the public focus on pension systems increases and resulting legislative changes come more and more rapidly, the support for addition of new tiers with more restricted benefits by merely editing a natural language business rule is increasingly attractive.

A.1.3.6 Strive for Straight-Through Processing (STP)

The concept of Straight-Through Processing (STP) as a tenet of business process re-engineering gained significant popularity more than a decade ago when banks and brokerage houses were mandated to decrease the amount of time that they took to complete financial transactions from ten days to five, and later to three. Recognizing that handoffs (from one organizational unit to another) slowed processing significantly, the financial institutions went to great lengths to organize their processes so that there were few, if any, handoffs. Here we expand the concept of STP to include common-sense processing, that is, if an examiner is performing some customer-oriented process and finds that an address needs to be changed, the examiner should make the appropriate change, rather than initiating a separate request from another processor.

This concept applies to the complete design of the Funds new system in ways that have already been discussed. For example, many customer requests will be handled through use of the web, but when requests come into the call center, many of them may be more readily handled immediately by an agent rather than through the initiation of a work process that sends the customer request to another examiner for processing. Candidate processes are address changes, loans, etc. But the other consideration must be setting up processing of more complex requests to minimize handoffs, to minimize multiple reviews of calculations and multiple approvals of transactions.

A.1.3.7 Optimize Auditing

The Fund wishes to expand our current business processing to encompass best practices with respect to fraud protection and accuracy of data and processing. The Fund's current behavior in this regard typically includes:

- An execute, review, and approve policy on many of the Fund's transactions
- A very high number of documents submitted from outside the Fund that must be notarized
- The insistence on (often notarized) documentary evidence of much of their members' personal data, e.g., notarized copies of birth, marriage, and death certificates

Electronic workflow permits the design of work routes that support conditional routing. This concept can be used to set, for example, a default random audit percentage of 10% of all work in the determination of the cost of an arrears estimate, but ensure that one agent, who has proven very careless in his work over the past two months, has 100% of his work checked by a supervisor. In addition, if someone has worked for their entire career for an employer whose reporting has always been exemplary, their retirement might be processed entirely automatically (with a 5% audit rate), while someone who has a less vanilla work history would also be processed automatically, but the calculation would be audited at an 80% rate.

Similar principles could be applied to the verification of member personal and demographic data, depending on the employer who will be providing much of the data through an enhanced employer reporting system to do the checking of the validity of the supplied birth date, etc.

The Fund believes that with the technology available today to the determined forger, a member, or other customer determined to commit a fraudulent act will not be deterred by the need to swear to the accuracy of a forged document before a notary – or to forge a notary's seal.

A.1.3.8 Ensure Application of Enhanced System Security Principles

Security in topics such as provision against identity theft, secure messaging, and non-use of Social Security Number for anything other than taxes (as provided for by federal Social Security Administration law), is increasingly important in any interaction with the public. In fact, there remain members of the public who will not use the computer for any transactions involving exchange of personal data of any sort because of their concerns about possible breach of security and inappropriate use or loss of that data.

In fact, the attention to the most stringent security is one principle that applies to actions taken by the Fund and the Offeror from the start of an LOB implementation project – as well as being embedded within any eventual solution.

The following are examples of the concept's future system application:

- The solution should contain security tools that monitor compliance with the Fund's security policies and procedures. The tools should provide security reporting, monitoring, automated warnings via cells phones or other devices to the organization's IT/security staff and give the organization the ability to manage their security as tightly as they wish
- Provide auto-encryption of e-mails going outside the organization to ensure compliance with HIPAA as a best practice

- Staff hiring and orientation, solution rollout, and any subsequent training should emphasize education of staff of the importance of security
- Members must be educated on the importance of not sending personal information to the organization via unencrypted e-mail
- The Fund web–site or portal should use secure exchange of information and provide a method by which members (even those who have no understanding of encryption) to exchange personal information securely.

A.1.3.9 Flexibility and Thoroughness in Member Communications

This principle has broad application, but it starts with the concept of a member/retiree profile. This concept calls for a strong focus on optimized member communications, in which the member or pensioner defines his or her contact and communications profile. This profile would include preferred address, e-mail, telephone and other designations. It will also permit the member or pensioner to create a digital signature, thereby potentially precluding the need to notarize some paper documents prior to submitting them. As the methods of and devices supporting electronic communication proliferate, providing support for the imaginative use of social networking capabilities for interaction, the choice of paper-based mail, faxing, e-mail, etc., as the primary vehicle, and providing support for multiple mobile devices (smart phones, tablet PCs, etc.) becomes increasingly important.

The member/pensioner communications profile exists as part of a Customer Relationship Management (CRM)-like system, the potential foundation for a member's or pensioner's interaction with the Fund (both their direct interaction and Fund staff interaction on the member's or pensioner's behalf). A CRM system would enable the Fund to effectively use its knowledge of a member or pensioner to maximize each interaction with that individual and thus to provide the optimal possible service.

The following are examples of the concept's future system application:

- The system will support the use of a login ID and Password as well as multifactor authentication capabilities (including sending a one-time pin via e-mail or text, etc.) and the ability for a member to change his or her Password at will.
- The system will support multiple postal addresses for members, each with an effective date (or alternatively with one address set as "active") – including 'snow birds'. The system will be able to retain a date and automatically use the proper address based on the effective dates
- The system will support multiple telephone numbers for the member with an indication as to the preferred number, or different numbers at different times of the day
- The system will support multiple e-mail addresses with an indication as to the preferred address
- The system will support the member's ability to define their preferred means of communication while promoting the Fund's preference for paperless communication if possible. In fact, the preferred means of communication will be an e-mail informing the member of the existence of a new communication and pointing them to a secure web address to which the member will login in order to view the document

- The system will provide support for the member's use of a digital signature, a feature which, because of its nature, may take the place of the need for notarization of ink signatures

  In fact, the flexibility in communications applies as well to education of all members of the Fund community, from staff, to members, to employers and possibly even third parties. As the staff and member population becomes increasingly one that has grown up with video- and web-based interactive education, their acceptance of – and expectations for – a broader range of vehicles by which such education can be effectively delivered increase dramatically, including:

- Develop web / automated training videos and other tools to cross-train existing staff and train new staff on the organizations processes and procedures
- Set up customized training for members on the web site. As the breadth of material increases, the training could be set-up in "paths" and the organization could use training institutions that are reputable so they would not have to build them in-house.

  One final practical point that must be made with respect to all communications and training material is the requirement of the Offeror that all material presented to the Fund must be configured and customized to meet the Fund's needs and match the Fund's installation; it may not be rehashed (and labeled) material from a prior installation.

A.1.3.10 Maximize Opportunities for Member Self-Service

This concept calls for the extensive support of member/pensioner self-service, primarily through a web portal. Such a portal would serve as a starting point for members and pensioners when interacting with the Fund, permitting them to obtain general and personalized information and proactively execute many business process tasks completely.

Member and pensioner self-service would be managed as part of a Customer Relationship Management (CRM)-like system, the potential foundation for a member's or pensioner's interaction with the Fund (both their direct interaction and Fund staff interaction on the member's or pensioner's behalf). A CRM system would enable the Fund to effectively use its knowledge of a member or pensioner to maximize each interaction with that individual and thus to provide the optimal possible service. The following are examples of the concept's future system application:

- Member and Pensioner Information Maintenance. Members and pensioners should be able to log-in through the web portal, access their account information and update appropriate information without delay (and include an audit trail/history of such interactions). This self-service capability would allow Fund staff to address other work as necessary. The member / user would be able to accomplish a variety of tasks, depending upon their security and or the availability of the service:
  - Demographic changes
  - Forms request and forms fill in
  - Live chat requests
  - Streaming videos
  - Secure e-mail generation
  - Benefit estimates/projections
  - Request account balance letters

- Request earning statements
- Schedule appointments
- Apply for refunds
- Initiate a service purchase
- Request and securely receive images
- Change EFT information if he or she changes their financial institution
- Update federal tax withholding and be able to have state withholding for states other than the District of Columbia
- Apply and manage the purchase of service, check the status of payment against previously purchased service
- Obtain a duplicate 1099R, etc.
- Apply for retirement
- Review and verify information
- Review status of pending requests

- Members should be able to complete most requests through the portal. This self-service capability would also allow staff to address other work as necessary.
- Accessing member information. As discussed with SMEs, members, pensioners, and, where appropriate, the Fund may make specific information accessible to numerous authorized parties.
- Access to self-service activities, which are gained through a personalized member/pensioner "Home page:" Access would require a personalized member ID and Password that can be reset by the system administrator as well as the user. The Home page could be customized by the user and, at a minimum, would contain alerts and notices pushed by the retirement system.
- Tools available to the user/retirement system would include electronic signatures or other security devices.
- Shared information. With some restrictions, any information that would be visible through the Call Center agent's screen when the member phone call was presented for service would also be available for viewing through the self-service web page.
- Similarly, any appropriate activities that the Call Center agent could initiate could also be initiated by the member through the self-service web page.
- Information availability. For pensioners, a breakdown of earnings statement and other documents containing relevant account information could be printed or downloaded for use by the pensioner in dealing with various financial activities (e.g. mortgage applications). They would also be able to choose to provide this information electronically to a third party such as a mortgage company.

A.1.3.11 Implement Proactive Member Services (Life-Event Planning)

This principle has a wide variation in level of sophistication in implementation. This would include notification of members of upcoming events based on the member profile (e.g., upon imminent vesting, the system would send a congratulatory communication explaining the significance and responsibilities of

having vested in the plan), the occasion of a birthday within five years of retirement would send an alert of a planning session to the member of near-term retirement planning sessions.

Currently, the Fund does not offer members a financial planning service. Consequently, any member wishing to plan for his/her financial future must establish accounts with professionals (CPA, CFP, etc.) – or take the less expensive approach of purchasing a personal finance software/online application and use a program's Retirement Planning module to obtain a tabular and graphical view of their retirement planning. The Fund would like to provide an industry standard interface to these planning software products.

A.1.3.12 Single View of the Member/Retiree

This concept seeks to accomplish precisely what its name implies, to enable the access to all of a member or pensioner's information from a single launching point. Using this single view, member or pensioner-specific correspondence history, encounter notes and all other information will be at the fingertips of Fund staff members.

A single view of the member/pensioner will exist as part of a Customer Relationship Management (CRM)-like system, the foundation for a member's or pensioner's interaction with the Fund (both their direct interaction and the Fund's staff interaction on the member's or pensioner's behalf). A CRM-focused system will enable the Fund to effectively use its knowledge of a member or pensioner to maximize each interaction with that individual and thus to provide the optimal possible service.

The following are examples of the concept's future system application:

- All member-facing departments could have access to the single view in managing their interactions with the members/pensioners. In addition, those business partners with authorized access to member/pensioner information, such as third party insurers, unions, etc., could also utilize aspects of the single view.
- The member management system will provide / track ALL multi-channel member interactions, including (in decreasing volume) mail, telephone, fax, and in-person meetings and (in increasing volume) e-mail (including notification of a URL to visit), web, and chat or IM.
- The system could manage all member interactions whether initiated by Fund staff members or call center agents or by the member or pensioner him- or herself. Member self-service is possibly the most important feature supported by a fully functional pension administration system, but the Fund will want to know of all member-related transactions, including those that are member-initiated and system fulfilled.
- The central, focused view of the member/retiree could be integrated with all member and pensioner data sources containing member data.
- Because all member-specific calculations could be accomplished in real time, there can also be the ability for a member to obtain his or her annual statement on-line – and there might no longer exist a need for the creation of a printed annual statement. The member could be able to request an online "Single View of the Member" information report at any time. Not only could the report contain all the information currently available in the annual statement, it should also be capable of pointing out holes (if any) in the member's service record, estimate costs of purchase of service to fill those holes,

and, as the member nears retirement, to offer the benefit available to the member should he or she choose one of the several alternate retirement options. A document containing relevant account information could be printed or downloaded for use by the member in dealing with various financial activities.

A.1.3.13 Member-Centric Process Improvement

Automating member processes minimizes the Fund's costs, but automation can be impersonal and constantly changing processes make the automation hard to manage. Member-centric process improvement, integrated with the underlying workflow engine, will provide the ability to measure and analyze the effectiveness of member interactions as well as the ability to quickly change processes.

The following are examples of the concept's future system application:

- The integrated system will make it easy to automate, manage, analyze, and evolve member processes such as new account setup, member problem escalation, communications profile definition, etc.
- The system will provide a single, familiar, easy-to-use interface so that the member, the Fund's call-center agents and other customer-facing personnel will be able to execute key business processes – and assist one-another in that process as appropriate.
- Many of the agency processes, particularly processing a complicated buy-back or processing a request for service retirement, are complex processes that have disproportionate resource requirements with arcane and/or complex business rules and require personal handling. Reconfiguration of such processes often requires cross-functional coordination and analysis, coupled with the scalability and flexibility to automate a high-volume of transactions. This is not provided by a simple rules engine, but by integration of CRM with appropriate workflow / BPM tools and good implementation thereof.
- As much as possible, the processes will be implemented through configuration rather than through customized code so that change is not dependent on the availability of scarce IT resources. Business Rules Management will allow the Fund to manage business rules, including versioning of rules as a result in changes in legislation, policy, etc. A possible technology implementation for business rules is a business rule engine.
- As the business processes change due to changes in statute or are made more efficient through analysis, business analysts (albeit specially trained and skilled) can suggest, define, configure, test and roll out changes.

A.1.3.14 Outsource Data Entry (to Members and 3rd Parties)

In a future system, the Fund will continue to use employer reporting to outsource a significant portion of member data entry to employers, who already have most, if not all of the information already at their disposal. Improving the quality of data collected during the employer reporting process would eliminate the need for filling gaps in member data during other processes, including arrears processing and retirement processing, thus reducing processing time and improving customer service. In addition, using the employer reporting process to collect more comprehensive member data would reduce the number of calculation errors resulting from incomplete data.

The following are examples of the concept's future system application:

- The employer interface should validate data as it is submitted, allowing correction to any data errors in real time.
- Employer reports include a breakdown of all member salary information (e.g., overtime, longevity bonuses, merit pay, and retroactive payments with dates). Classifying member information in this way would simplify member processing, particularly retirement processing, by reducing the need for examiners to research salary information in order to determine which portion of a member's salary can be used to calculate things such as final average salary.
- Employer reports include job title information for each employee. This information will be used to determine plan eligibility.
- The future system needs to be configured to allow processing of employer reports based on their payroll cycle (i.e., weekly, bi-weekly, monthly, etc.).
- The Fund will continue to use employer member demographic data during the employer reporting process. Employers typically have the most up-to-date information for each of their employees, so providing them with a mechanism to include this information in the reporting process would ensure that the Fund received these data updates as they were made.
- The reporting interface could be designed to provide immediate notification on payroll deductions, including arrears and loan payments, to streamline the process and reduce the number of refunds associated with deductions that were not stopped at the appropriate time
- Member registration could also be incorporated into the employer reporting process. For example, the employer interface could identify newly-enrolled members and when that designation is detected, allow registration information to be imported. This could trigger an Enrollment Packet to the member, including designation of beneficiary forms, etc.

  A corollary to the outsourcing of data entry is an emphasis on the collection of data (and the application of real time data edits to ensure collection of valid data) as it is available. Ways that this corollary is to be applied in a new system include:

  - Continued education of members that they should remember the Fund (and act accordingly by updating the agency's records) when filing change of address forms, changing their bank accounts, changing their e-mail addresses, suffer the death of one of their beneficiaries, etc.
  - Ensuring as part of the implementation of the system, feeds from NYPD's personnel systems will be set up with triggers so that changes to those systems automatically cause workflows within the Fund's pension administration system.
  - Ensuring that any data entered into the system, whether externally or from within the Fund (in response to a member- or employer-initiated request) has appropriate validity checks and data base edits applied. This applies particularly to employer-submitted service, salary, and contribution history where a spike in salary may be the result of a retroactive adjustment, but may also be the result of a data entry error –

and validating it on entry will make subsequent benefit estimates and retirement processing more rapid and accurate.

A final point to be made in this discussion is that all contribution information received from the employer should contain notations as to the source of the particular payment. While a retroactive payment adjustment is paid when the employment contract is finalized and the calculation completed, the actual adjustment may have been applicable to multiple prior months.

A.1.3.15 Enhanced Management Reporting

Currently, various Fund units may collect data on processing times. In the future system, the Fund should expand this data collection and use the results to guide management decisions and quality assurance strategies. Data collection can be used to foster a culture of continuous improvement. Management could use measurements of transaction cycle times, units of work, user output, transaction backlogs, and customer satisfaction to target areas for improvement or collect additional information on areas that appear, based on the data, to be working well.

In addition, this data could be used to build a quality assurance strategy. QA is a critical responsibility, particularly during implementation of the new system and instituting a QA strategy will help the Fund continuously improve its customer service provision.

The following are examples of the concept's future system application:

- The system should support a variety of electronic management reports that highlight those areas that management uses to run the agency (e.g., processing of membership or retirement applications, efficiency of employer reporting). These reports could present information at a high level but support drill-down capability to permit analysis of particular problem areas or other areas of interest. For example, one of these reports could be a dashboard-format report that provides easily accessible summaries of the many topics and sub-systems that make up the pension administration system as a whole.
- The new system could include a mechanism to allow members to complete automated surveys online, after they have accessed services through the member portal. The results of these surveys, and any included member comments could be compiled in reports that management could use in conjunction with the system generated management reports.

A.1.3.16 Appropriate Use of Existing and Emerging Technologies

Several of the sections above have discussed specific implementation of enabling technologies[2] such as imaging, workflow, the world-wide web, etc. However, there remains a general principle that has not yet

[2] An enabling technology is one that is sufficiently broad in application to make a potentially significant impact on the efficiency of users and the enablement of members. For example, a typewriter is technology, but we would no longer classify it as enabling technology since it has been surpassed by computer-based word processing capabilities; and while word-processing is enabling technology, it has become sufficiently commonplace to no longer warrant a place in the broad discussion of enabling technologies discussed here.

been articulated – any solution that a public retirement system installs should strive to make appropriate use of existing enabling technologies to the maximum extent possible.

There are numerous enabling technologies that have come into existence in the past several decades. Some of them have already achieved broad acceptance in the marketplace, but many have not yet been recognized for the power that they can bring to the solution or to enabling of the interaction between the member, the user, and the pension administration system itself. Finally, we note that there are two other classes of enabling technologies:

- Those that may have achieved broad acceptance in everyday use but have not yet been imaginatively integrated into pension administration systems.
- Those that have not yet been invented or have not yet achieved sufficient penetration of our consciousness to warrant discussion here. One thing we can guarantee is that there are certainly more technologies than we have listed here.

Below are short discussions of those technologies of note that have already found a place in some pension administration systems – and will become commonplace in the years to come:

Relational Data Base Management Systems (RDBMS) – Of the many different types of database systems in existence, e.g., network, hierarchical, the RDBMS is certainly the most powerful and capable of the lot, particularly in supporting the concept or normalization of data (ensuring that any data element appears only once in a database rather than in multiple locations. If fact, nearly all Customizable, Off-The-Shelf (COTS) solutions available today are based on a normalized RDBMS – but the technology nonetheless bears mentioning.

Data Warehouses – This technology supports the storage of "snapshots" of the system database. Typically, the database contains transactional information; the user can determine the current address of a member, or the number of active members employed at Employer C, or other such finite data. However, determining the variation in number of members at Employer C over the past three years requires that we have information about how the data varied over time, a series of "snapshots." Transactional databases do not typically contain such information, but through the use of a concept known as a data warehouse, the time-dependent variations can be stored separately from the production database and used to develop knowledge about variations over time, metrics, about the system. The section above on metrics, Management by Objective (Metrics), might best be implemented using a data warehouse approach.

1-D and 2-D Bar[3] Codes – We have all seen bar codes used in product packaging, airplane boarding passes, etc., so that the use of scanners integrated with computers and capable of reading the bar codes can decrease the amount of human data input (and corresponding errors) and increase the reliability of transactions. A specific use in pension administration is the application of bar codes to all forms and turn-around documents in use at the retirement system. When received from a member, the forms with bar codes can be scanned, indexed and appropriately directed without human intervention because the forms in fact carry an embedded message about the information on the form.

[3] 1-D bar codes are typically a set of parallel lines of varying thickness and varying spacing. 2-D bar codes are the glyphs that one sees increasingly in boarding passes, FedEx labels, etc. The 2-D codes can encode significant amount of information and with their built in redundancy are far more reliable than the older 1-D codes.

Remote Workstation Support – Tools that permit centrally located support specialists and call center staff to remotely take over a user's workstation and observe just what steps a user is taking to perform an operation, etc. While this is not a significant enabler in a small, single-location agency, one with distributed member service can benefit from possible consolidation of their IT and support staff. And agency support staff can remotely assist payroll clerks and other employer staff in working through issues they might have with payroll processing, etc.

Use of PDAs and Smartphones – This is one of those technologies that is not only enabling, it is still emerging. While there are as yet no "retirement apps" available for download, there is good reason to believe that within ten years members may be able to conduct nearly all of their interactive business with the retirement agency through the use of an "app" on their smartphone. It will be up to the retirement agency to specify the amount of interaction they want to permit by this vehicle, but today users can use their phones to interact with their bank and brokerage house, pay for a cup of coffee, and find the nutritional characteristics of the meal they just consumed. It is not far-fetched to think that they will interact with their retirement system a few years from now.

A.1.4 Addressing Adherence to Best Practices

In its proposal (Artifact P-2, Business-Focused, Pension Solution Overview), Offeror shall discuss how its proposed solution adheres to the best practices presented in this section. In recognition that "best-practices" may not apply in all situations, Offeror should indicate which best practices are not met by the proposed system and provide and explanation as to why a particular best practice is not met.

A.2 MANDATORY QUALIFICATIONS

Offeror should address how the proposed solution either adheres, or doesn't adhere, to the best practices listed here. This should be contained in Artifact P-2, Business-Focused Pension Solution Overview (see Section C.3.3).

An Offeror must meet all of the qualifications outlined below. A statement that the Offeror's firm meets the qualifications must be included in the Offeror's Cover Letter accompanying the proposal. Failure to do so may result in the rejection of the proposal.

A.2.1 PROPOSER MINIMUM QUALIFICATIONS

To qualify as an Offeror, the Offeror must be able to cite five or more public sector defined benefit pension clients with similar scope to that required by the Fund. At least three of those referenced clients must have a project which is fully complete, (i.e., in the warranty period or later). At least one of the fully completed cited references must have at least 50,000 members and retirees and must have been completed within the last three years. The Offeror's proposed project manager must have served in that role at one of the fully completed cited references in the past three years.

The Offeror must include the projects it is using to satisfy the minimum requirements described above as Artifact MQ-1. For each project listed, there should be a corresponding Client Reference Form (Attachment G-8).

All references in this RFP to the "Offeror" shall be construed to encompass both the Offeror (prime contractor) and all subcontractors and infer the single source of responsibility as the Offeror (prime contractor).

A.2.2 PROJECT MANAGER MINIMUM QUALIFICATIONS

The Offeror's proposed Project Manager must have a minimum of five (5) years of experience in project management within the last seven (7) years. That experience must include at least two (2) years of work with the Offeror, similar in scope to that outlined in Part C of this RFP with a public retirement system providing a defined benefit plan, having a membership of at least 50,000 members and annuitants.

The Offeror must include the projects it is using to satisfy the minimum requirements for the Project Manager as Artifact MQ-2. For each project listed, there should be a corresponding Client Reference Form (Attachment G-8) for any project being using to satisfy the minimum requirements for the project manager as described above that is not already included in Artifact MQ-1.

A.2.3 OTHER MANDATORY REQUIREMENTS

The following mandatory requirements **MUST** be satisfied. If any of the following mandatory requirements are NOT met, the proposal will be deemed non-responsive, and the Proposer will be notified. **By signing and submitting a response to this RFP, the Offeror agrees to all mandatory deliverables described herein.** Non-responsive proposals will not be evaluated. In its response to this section, the Proposer must summarize how these mandatory requirements are fulfilled in its proposed solution.

- All work must be done in the United States of America (sending any work off-shore is prohibited).

A.3 PROCUREMENT INFORMATION

A.3.1 AUTHORIZED AGENCY POINT OF CONTACT

Proposers are advised that the Authorized Fund Contact Person for all matters concerning this Request for Proposals is:

Name:	Latonia Harris
Title:	Deputy Director, Financial Management
Address:	New York City Police Pension Fund 233 Broadway, 25th Floor New York, N.Y. 10279
Telephone:	(212) 693-5068
FAX:	(212) 693-6868
E-Mail Address:	lharris@nycppf.org

Offeror's proposals, due at the time specified in Table A-1, are to be delivered to the Fund office, marked to the attention of:

Name:	Latonia Harris
Title:	Deputy Director, Financial Management
Address:	New York City Police Pension Fund 233 Broadway, 25th Floor New York, N.Y. 10279
Telephone:	(212) 693-5068
FAX:	(212) 693-6868
E-Mail Address:	lharris@nycppf.org

From the issue date of this RFP until a successful Offeror is selected and the selection is announced, Offerors are not allowed to communicate, for any reason, with any Fund staff member, or other contractor involved in this procurement, regarding this particular procurement, except through the point of contact named immediately below. For violation of this provision, the Fund shall reserve the right to reject the proposal of the offending Offeror.

By submitting a proposal, the Offeror acknowledges that it has read this RFP, understands it, and agrees to be bound by its requirements.

A.3.2 Procurement Schedule and Milestones

The dates provided in Table A-1 below are approximate

The Fund reserves the right to change the calendar of events or issue Addenda to the RFP at any time. The Fund also reserves the right to cancel or reissue the RFP. Offerors should notify Authorized Agency Point of Contact and intent to participate in this procurement. Registered Offerors will be notified of any amendments or other RFP related materials will be posted there.

Table A-1: Project Schedule

Date	Activity
10/31/2016	RFP Release Date
11/11/2016	Questions to be read at the conference are due
11/16/2016 10:00 AM (ET)	Mandatory Proposers' conference
11/18/2016	Final Questions from Registered Proposers Due
11/25/2016	Responses to submitted questions are published
12/9/2016 2:00 PM (ET)	Proposal Due Date and Time*
1/6/2017	Notification of short-list Offerors; script for demonstrations sent
1/23 – 1/31/2017	Hold scripted product demonstrations / presentations – 2 days for each Offeror
1/9 – 2/17/2017	Customer site visits
2/24/2017	The Fund evaluation complete and finalists are notified
2/27/2017	Contract negotiations begin
Minimum 4 – 6 Weeks	NYC Law Department review of contract for approval

*Proposals received at the designated location after the Proposal Due Date and Time are late and shall not be accepted by the Fund, except as provided under the New York City's Procurement Policy Board Rules. The Fund will consider request made to the Authorized Contact Person to extend the Proposal Due Date and Time prescribed above. However, unless the Fund issues a written addendum to this RFP which extends the Proposal Due Date and Time for all proposers, the Proposal Due Date and Time shall remain in effect.

A.3.3 RFP ORGANIZATION

This RFP is organized as described below.

PART A – GENERAL INFORMATION AND PROCUREMENT INFORMATION

This part of the RFP contains general information and the Fund's terms and conditions.

PART B – PROJECT BACKGROUND AND WORKING ENVIRONMENT

This part of the RFP describes the Fund's current environment and thereby provides the background for the issuance of this procurement.

PART C – SPECIFICATION OF REQUESTED SERVICES

This part of the RFP defines in detail the scope of the effort. It addresses the business requirements to be satisfied, the project's technical requirements (including standards to be observed, hardware and software to be provided, and interfaces to be accommodated), and other required services and deliverables, including project management services, data-related services, staffing, training, testing, disaster recovery planning, and warranty, maintenance, and support requirements. Options to be proposed are also identified.

PART D – TERMS AND CONDITIONS

This part of the RFP contains the Terms and Conditions associated with this procurement effort and with any contract that might be awarded as a result of this procurement.

PART E – OFFEROR PROPOSALS

This part of the RFP provides detailed instructions for the preparation and format all components of the Offeror's proposal as well as the evaluation criteria that will be used to rate all proposals received.

PART F – ATTACHMENTS

This part of the RFP includes attachments that are not incorporated into the body of the RFP itself. Some of the attachments are available by downloading the material from the procurement website. Prior to the Mandatory Proposers' Conference, contact the Authorized Agency Point of Contact to gain access to this area of the website.

Part F includes the following information:

F-1.2 Summary Plan Descriptions – Tier 2

F-1.3 Summary Plan Descriptions – Tier 3

F-2 2015 Comprehensive Annual Financial Report (CAFR)

F-3 Inventory and Samples of all Letters, Forms, Reports and Work Sheets used by the Fund

F-4 Appendix A - General Provisions Governing Contracts for Consultants, Professional, Technical, Human, and Client Services

PART G – FORMS/TEMPLATES TO BE RETURNED WITH PROPOSAL

This part of the RFP includes forms that are to be filled out and returned by the Offeror. Some of the attachments are available by downloading the material from the procurement website. Prior to the Mandatory Proposers' Conference, contact the Authorized Agency Point of Contact to gain access to this area of the website.

Part G includes the following information:

G-1: (Not currently used)
G-2: (Not currently used)
G-3: Business Requirements Matrix
G-4: Resume Summary and Reference Form
G-5: Question submittal form
G-6: (Not currently used)
G-7: Client Experience Form
G-8: Client Reference Form
G-9: Customer List Form
G-10: Proposed Hardware List
G-11: Proposed Software List
G-12: Draft Staffing Plan Tables
G-13: Free-form Artifact Template
G-14: Cost Proposal Template

A.3.4 SINGLE SOURCE OF SUPPORT

Joint ventures shall not be acceptable for the performance of this contract. A single prime contractor will be responsible for the successful delivery of all contracted deliverables and services, including subcontractors' efforts. Multiple (alternate) proposals from a single Offeror will not be accepted. Companies being proposed as subcontractors by multiple Offerors will also not be allowed.

A.3.4.1 Prime Contractor

The Fund is seeking a single source for all activities relating to the new pension administration solution implementation. The Offeror (prime contractor) shall be granted the right to subcontract a portion of the work but shall retain sole responsibility for the successful delivery of all contracted deliverables. The Offeror (prime contractor) must be designated in the proposal, and any use of subcontractors must be clearly explained. All references in this RFP to the contractor, Offeror, bidder, or successful Offeror, etc. shall be construed to encompass both the Offeror (prime contractor) and all subcontractors and infer the single source of support as the Offeror (prime contractor).

A.3.4.2 Sub-Contractors

If the use of subcontractors is planned, the proposal must specifically identify the tasks that each subcontractor is to perform. All subcontractor staff in key positions must meet the same qualifications for experience specified for the prime contractor. Resumes must be included for these key subcontractor staff. The proposal must also include sample copies of any agreements to be executed between the prime contractor and any subcontractors in the event of contract award. All subcontracting agreements must be signed at the time of contract award, and executed copies provided to the Fund for review prior to the execution of a contract with the prime contractor. Proprietary or confidential information may be redacted in the copies provided to the Fund. Prior to contract execution, the Fund reserves the right to reject any subcontractor or the specific agreement between contractor and subcontractor.

All Offerors must list in their proposals the complete names and addresses of all subcontractors and the type and percentage of work they will be providing. Proposals must include a signed, written statement from any proposed subcontractors verifying their commitment to perform the services indicated to be completed by them. Failure to identify subcontractors may be grounds to find the prime contractor in breach of contract.

Substitution of any proposed subcontractor is allowed only after prior written permission is received from the Fund's Project Manager.

A.3.5 OFFEROR REGISTRATION

Offerors wishing to participate in this process should notify Authorized Agency Point of Contact. Prior to the Mandatory Proposers' Conference, any Offeror that registers will be given access to a secure area of the website to download digital copies of this RFP and attachments. Registering will allow interested Offerors to be notified of any updates or changes during the procurement process.

Offerors are not required to be a preregistered Offeror in order to submit a proposal, but the all Offerors must attend and register at the Mandatory Proposers' Conference.

A.3.6 OFFEROR QUESTIONS ABOUT RFP AND PROCUREMENT

Offeror questions relating to this RFP and/or procurement may be submitted, via e-mail, to the Point of Contact named in Section A.3.3. Questions are to be submitted using Form G-5, Offeror Question Template, and attached to the e-mail. The closing date for questions is contained in Table A-1.

A.3.7 MANDATORY PROPOSERS' CONFERENCE

A pre-proposal site tour and Proposers' Conference will be held at the Fund's office, at the address specified for the point of contact in Section A.3.1, at the date and time specified in Table A-1. Any Offeror intending to respond to this RFP must attend this conference in person. A tour of the Fund's facility will commence promptly one hour prior to the scheduled time of the Proposers' Conference. Attendance is limited to two individuals from each Offeror's organization.

The Offeror's proposed Project Manager must attend the Proposers' Conference discussed above.

Offerors will be allowed to submit written questions only to the Point of Contact identified in Section A.3.1 prior to the Proposers' Conference. Additional questions can be submitted for up to two business days after the Proposers' Conference following the process detailed in Section A.3.6 and will be answered by the date specified in Table A-1.

All Offerors who attend the Mandatory Proposers' Conference will be issued unique credentials to access all materials related to this procurement.

A.3.8 ORAL STATEMENTS AND COMMITMENTS

Offeror must clearly understand that any verbal representation made or assumed to be made during any oral discussion held between Offeror or Offeror's representatives and any Fund personnel or contract personnel is not binding. Only the information issued in writing and added to the Request for Proposal specifications file by an official written addendum are binding.

A.3.9 ECONOMY OF PREPARATION

Proposals should be prepared simply and economically, providing a straightforward, concise description of the Offeror's abilities to satisfy the requirements of the RFP. Emphasis should be placed on completeness and clarity of content not on marketing/sales information.

A.3.10 Presentations and Product Demonstrations

At the Fund's discretion, Offerors who receive high scores after the initial review of proposals will be required to provide presentations and product demonstrations at the Fund's offices. Selected Offerors will be offered alternative dates from which to select. Offerors will also be provided with scripted product demonstration scenarios on which to base their product demonstrations in order to assure an objective comparison among Offerors' proposed solutions. The Fund may require Offerors to use actual Fund data in order to assure an objective comparison among Offerors' proposed solutions.

The Fund requires that the Project Manager, and states a strong preference to see other key assigned project staff, conduct the demonstrations. The Fund's objective is to discern the Offeror's proposed project staffs' familiarity with the solution and their ability to explain, communicate, converse, and interact with Fund staff. While respecting the role of sales and marketing staff in the sales process, the Fund is most interested in interacting with key project members.

In addition, visits to existing Offeror customer sites that are running the proposed solution in production will be conducted by Fund staff.

The Fund reserves the right not to conduct Offeror presentations, product demonstrations, and/or customer site visits.

A.3.11 Requests for Clarification

Upon review of proposals submitted by Offerors, the Fund may, at its discretion, submit to Offerors written questions and requests for clarification relating to their technical and/or cost proposals. Offerors will be provided a reasonable period of time in which to submit written responses to the Fund's questions and requests for clarification. Such question-and answer exchanges may be repeated until the Fund is satisfied that all Offeror information necessary to enable a complete evaluation of proposals has been obtained.

All such written exchanges between the Fund and the successful Offeror will be incorporated by reference into the contract to be executed by the two parties.

A.3.12 Best and Final Offers

At the Fund's discretion, Best and Final Offers (BAFO) may be solicited from Offerors whose scores are ranked highest after the initial review of proposals, presentations, product demonstrations, and site visits (if demonstrations and site visits are conducted).

BAFOs may address cost, scope changes, staffing changes, changes to approach – both those solicited by the Fund and those offered by Offeror.

These Offerors' best and final offers must be received at the address identified in Section A-3.1. If a Best and Final Offer is not submitted, the previous submittal will be construed as the Best and Final Offer. BAFO proposals must be prepared in the same number of copies and packaged and submitted according

to the same instructions that apply to the initial proposal submission (please refer to Section E-1). After Best and Final Offers are received, final evaluations will be conducted for an award.

The Fund reserves the right not to solicit Best and Final Offers.

A.3.13 CLARIFICATION OF TERMINOLOGY

All references in this RFP to features, functions, or deliverables that "should," "must," "will," "has ability to," etc. be provided by the Offeror are to be construed as mandatory.

Offerors may be referred to alternatively as "bidders," "Offerors," "proposers," "successful Offerors," "successful bidders," etc. All such references (except for those explicitly defined otherwise) are to the primary contractor who submits the proposal in response to this RFP and, if successful, who will be responsible for the successful completion of all required deliverables.

In reviewing Offerors' business proposals, the Fund will assume that all features and functionality described therein will be delivered for the quoted not-to-exceed cost presented in the Offerors' cost proposals. Statements such as " … *[functionality n] can be provided* …" or " … *[functionality n] may be provided* …" or other similar sentence constructions will be interpreted to mean that functionality n will be provided at no additional cost. If Offerors wish to discuss functionality that is feasible but not included in their cost, they must explicitly state as much in every applicable case.

References to days are to calendar days unless otherwise explicitly stated.

Reference is made throughout the RFP to project phases. The phases we require are based on best practices in project management, particularly as defined in the Project Management Institute's Project Management Book of Knowledge (PMI's PMBOK). In addition, we use the term "sub-phase" or "functional rollout" to refer to the major functional rollouts (e.g., membership, benefits) that encompass the new pension solution implementation phase.

Throughout this RFP, the Fund refers to awarding of the contract as if this solicitation will result in awarding a contract to a successful offeror. In fact, the Fund reserves to itself the right to reject all proposals and to make no award whatsoever.

A.3.14 FACILITIES TO BE PROVIDED BY THE FUND

The Fund will provide office space, desks, workstations, printers and limited phones for Offeror staff members as available. Offerors should state in their proposals their requirements in this regard. Access to the Fund's current processing environment and copying facilities will also be provided. Offerors should state in their proposals their requirements for number of desks/phones, as well as meeting, conference room, and training facilities. Internet access is not readily provided via the Fund's networked workstations. The Fund will provide access via a separate standalone network as needed. In addition to the Fund's Project Manager, the Fund will make every effort to provide readily available access to subject matter experts as necessary with special regards to the operations of the Fund during the duration of the project.

It should be assumed by the Offerors that Fund staff assigned to the project, unless otherwise described, will be available for up to 60% of their standard work week for project related activities.

Offerors must agree to abide by all Fund security and other policies and procedures. Furthermore, should it be determined that any fault in the network (virus, worm, etc.) can be traced to an action taken (or not taken) by the Offeror, the Offeror will be fully responsible for all actions taken and all expenses incurred to correct the fault.

A.4 RFP AMENDMENTS

The Fund reserves the right to amend the RFP prior to the date of proposal submission. Amendments will be posted to the Fund's secure website. Prior to the Mandatory Proposers' Conference, contact the Authorized Agency Point of Contact to obtain necessary information.

PART B CURRENT OPERATING ENVIRONMENT

B.1 OVERVIEW OF ORGANIZATION AND FUNCTIONS

B.1.1 ORGANIZATION AND STAFF

Figure B-1 shows the organization structure of the New York City Police Pension Fund. Section B.3provides a more detailed description of those organizational entities involved in the administration of the Fund's pension plans.

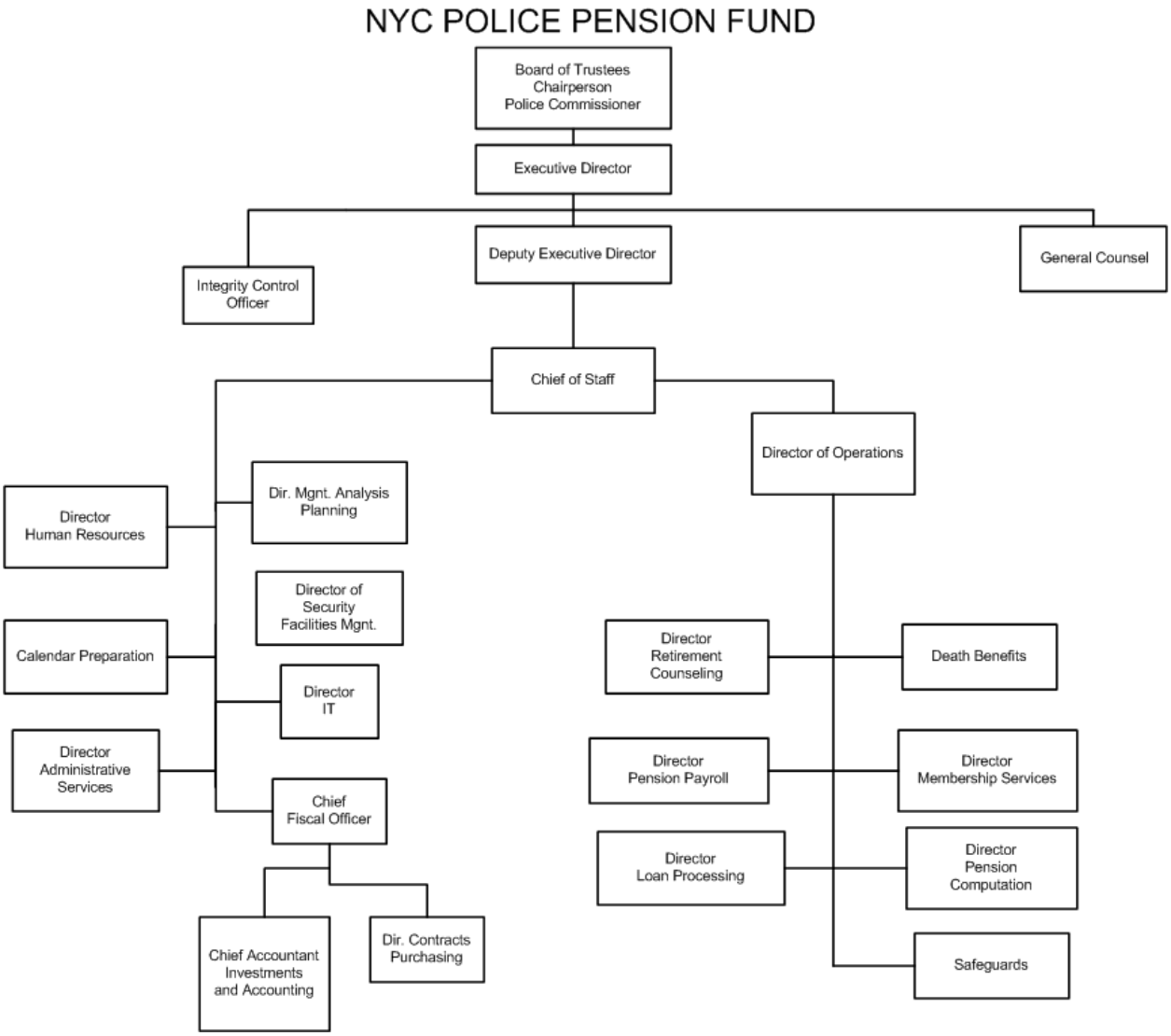


Figure B-1: The Fund's Organizational Structure

B.1.2 Key Plan Provisions

The plan provisions of the Fund's pension plans include, but are not limited to:

B.1.2.1 Tiers 1 and 2:

AC NY §§ 13-214—13-267

RSSL § 440-451

B.1.2.2 Tier 3:

RSSL §§ 500—520

B.1.2.3 Both Tiers:

AC NY §§ 13-644—13-696

AC NY §§ 13-701—13-705

City Charter § 96

City Charter § 1117

RSSL §§ 2(36). 32, 43, 113

RSSL §§ 150—155

RSSL §§ 160—173

RSSL §§ 176—179a

RSSL §§ 185—186

RSSL §§ 190—203

RSSL §§ 210—216

RSSL §§ 430—432

RSSL §§ 470—473

RSSL § 480

RSSL §§ 620, 630, 640, 645

RSSL §§ 900—911

RSSL § 1000

IRC § 72(p)

IRS § 401

IRS § 414

IRC § 415

38 USC §§ 4301-4335

B.1.2.4 Variable Supplements Funds:

AC NY §§ 13-268—13-277

AC NY §§ 13-278—13-287

B.1.3 Key Processing Statistics

General statistics about the current pension administration system are included in **Table** B-1 below:

Table B-1: The Fund's Pension Administration Statistics

Item	Quantity
Number of active members	36,000
Number of retirees and beneficiaries receiving monthly payments	49,000
Number of Disability Retirees	15,000
Number of plans	4
Number of tiers	4
Number of contributing employers	1
Number of Fund employees	131
Annual Number of Retirements	1,500
Annual Number of Separations	700
Annual Number of Service Purchases	1,300
Annual Number of Transfers	110
Annual Number of Loans Processed	9,100

The volumes of documents currently printed as part of the legacy pension administration system are indicated in **Table** B-2 below.

Table B-2: Current Fund Printing Volume Estimates

Printing Job	Approximate Volume	Frequency	Output Source
Annual Member Statements	35,100	Annually	Printed in-house
1099's	89,900	Annually	Printed by a separate city agency
Pension Checks	4,300	Monthly	Printed by a separate city agency

PRINTING JOB	APPROXIMATE VOLUME	FREQUENCY	OUTPUT SOURCE
Pension EFTs	46,000	Monthly	Processed by a separate city agency

B.2 CURRENT TECHNICAL ENVIRONMENT

The sections that follow include descriptions of the hardware and system software for each of the major business applications the Fund currently runs.

The Fund will assume responsibility for all operational and programming support of its current systems. The Respondent will have no responsibilities in this regard. Also, the Fund will assume responsibility for all activities relating to the shutdown / decommissioning of the current pension system after cutover to the new solution.

The Fund is responsible for the management and the administration of approximately 85,000 pensions for the New York City Police Department. The original pension administration system, the Comprehensive Officer Pension System ("COPS"), started development in 2003 and went into production on March 17, 2008. COPS was implemented and maintained by Vitech until 2011 when the maintenance function was moved in-house to the Fund's Information Technology department.

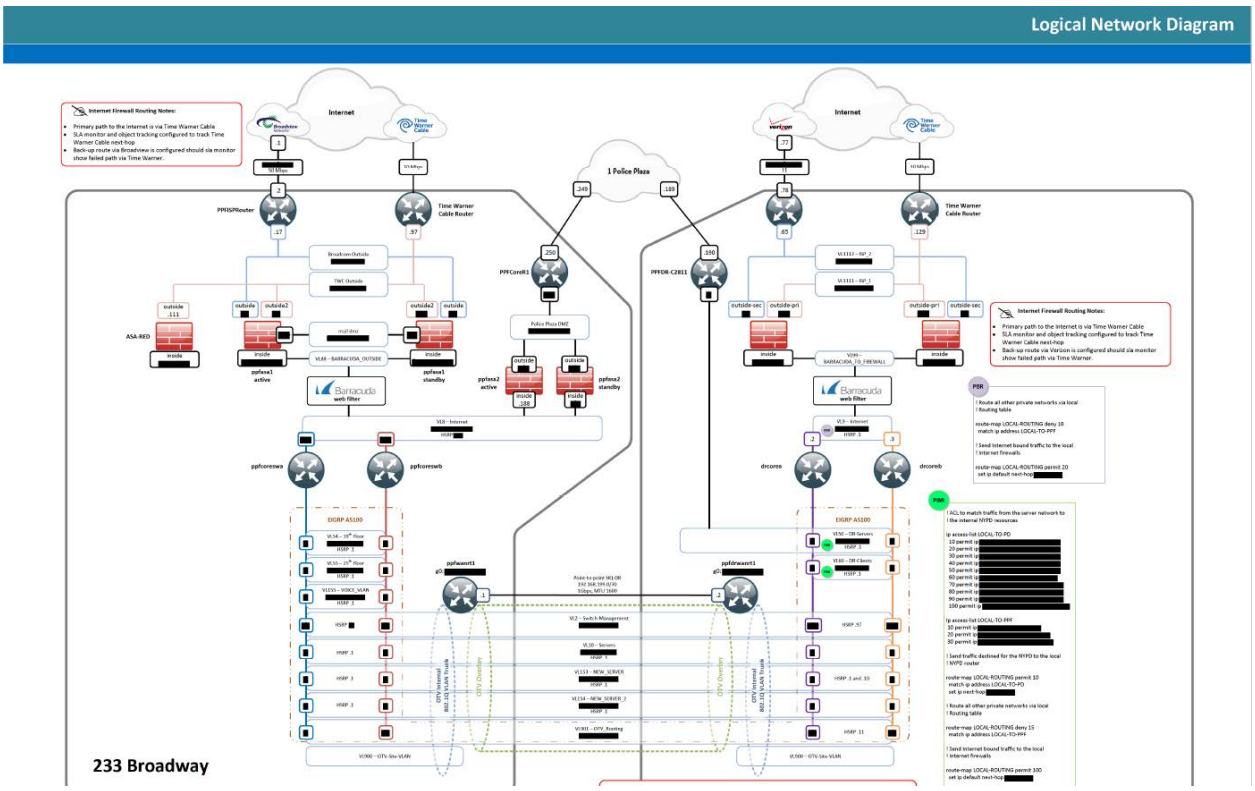
B.2.1 WIDE AREA NETWORKS

The production computer room is located at the Staten Island Telehouse facility and is connected to our Manhattan headquarters stand-by computer room using Cisco OTV running over a 1 GB EPL data link. Both sites run on the same IP subnet.

B.2.2 LOCAL AREA NETWORKS

The Fund's headquarters has a CISCO network architecture that utilizes four access wire closets connected to dual core switches in the headquarters computer room using 10 GB fiber optic uplinks. The Microsoft Windows 2012 Hyper-V four node cluster supports 66 Virtual Servers and 193 desktops.

Figure B-2: The Fund's Network Infrastructure



B.2.3 WAN/LAN SECURITY

Our WAN has a dedicated Verizon 1 GB EPL data link between the headquarters stand-by data center and the Telehouse production data center. Our LAN utilizes Microsoft Windows AD user id accounts with fingerprint biometric identification.

B.2.4 THE FUND'S SERVERS

Both the headquarters stand-by data center and our Staten Island Telehouse production data center have identical hardware platforms. Our Microsoft Windows Hyper-V host support 66+ virtual computers on a 4-node cluster connected to EMC VNX 5500 disk array with 144 TB of tiered storage using flash, SAS and NL-SAS drives. The two EMC 5500 disk arrays are synchronized in near real-time over the 1 GB EPL data link using EMC Recover Point Appliances. Backup is provided by disk to disk backups to an EMC Data Domain device located at the Staten Island site and replicated to a secondary EMC Data Domain device in Manhattan. Monthly encrypted backup tapes are extracted from the Data Domain and store off-site.

B.2.5 DESKTOP COMPUTING

The Fund's Manhattan headquarters has 193 desktop computers on the 19th and 25th floors. Each device is connected to one of four wire closet switches using 1 GB NICs over TCP/IP. The four wire closets are connected to the headquarters dual core switches using 10 GB fiber cables. Our disaster recovery site located in the Staten Island Telehouse facility has 60 desktop computers and the production data center. Both the Headquarters and Telehouse data centers are connected by EPL 1 GB fiber link with dual paths. All the desktop computers are scheduled to be upgraded by the end of 2016 with the configuration listed below. Today the computers run Windows 7 and Office 2010.

Table B-3: the Fund's Workstation Hardware / Software

HARDWARE

Dell OptiPlex 9020 mini Tower

Intel i7 Processor Quad Core 3.60 Ghz

HD4600 Graphics

16 GB RAM

256 GB Solid State Drive

24" Flat Screen Monitor

Wireless Keyboard & Mouse

SOFTWARE

Microsoft Windows 10 64-bit Operating System

Microsoft Office 2013 SP1

Adobe DC

Oracle Java 6 update 29

Docushare 6.6.1

IBM HOD 11

SecureZip 14.4

McAfee Agent 5.0.2

MacAfee Virus Scan 8.8 patch 7

DigitalPersona 4.4.3

RealVNC 4.6

PowerChute 3.0.1

B.2.6 Mobile and Remote Computing

COPS2Go is our full function COPS application loaded on 6 laptops with cellular data and wi-fi communications. These mobile laptops access our network via a secure Cisco VPN link and RSA 2-factor tokens. The laptops are used at pension seminars to bring the Fund's office capabilities to the field.

TeamViewer Remote Desktop is used by a limited number of Executive staff for emergency access to their desktop computer from home.

B.2.7 File and Print Services

We use Lexmark T654dn printers in the cubicles and office area for daily printing activity. We also have 6 large multi-function Xerox scan/copy/printer located on the 19th and 25th floors for major printing jobs.

Table B-4: The Funds Current Printer Inventory

Make	Model
Lexmark	T654dn B&W
Lexmark	C736dn Color
Xerox	WorkCentre 5890/5890/5875/C75/ D125
Kodak	i4600 Plus

B.2.8 Disaster Recovery

The Fund's goal is to provide each of its members with the highest level of service. Accordingly, the Fund's *Business Continuity Plan(BCP)*provides the management and operational context for continuous member service at an alternate location in the event of a disruption in operational capability at 233 Broadway.

Significant disruptions that may cause redeployment include: a building/citywide power outage; a transit strike; a building flood; smoke damage; an explosion; hurricane; or a chemical or biological incident.

The BCP is a framework within which both planned and improvised actions occur. It is not a document that prescribes every single action that needs to occur. That's because it is not possible for the BCP to

anticipate every decision that must be made if redeployment becomes necessary, nor can this plan ever replace sound tactical police judgment. The success of this plan rests upon: 1) anticipating and addressing the steps that need to be taken to prepare for any disruption; 2) the teamwork and experience of the Fund's leadership; and 3) the positive attitude, flexibility, and willingness to "go the extra mile" by members of the Fund teams and staff.

If the Executive Director or his designee decides to redeploy the agency to Telehouse, the Fund's actions will follow a six-part strategy:

1. Hot Site: Transition the agency to a turnkey secondary operating site (i.e., "hot site"), which provides the network connectivity, supplies, and equipment necessary to safely support the Fund's staff and operations for a time period that may vary from days to months. The contracted site is equipped and ready for the Fund's staff to begin operations immediately:

   Telehouse America
   7 Telehouse Drive, Suites 209, 209A, 210 & 211
   Staten Island, NY 10311

2. Teams: Form five special BC teams, who will guide and facilitate redeployment to Teleport if ordered. The Executive Decision Team (EDT) focuses on making sound agency wide decisions. The Damage Assessment Team (DAT) provides the EDT with the real-time status of Fund and Woolworth operating systems. The Information Assessment Team (IAT) provides the EDT with local and regional safety and security information. Two additional teams – the Site Advance Team (SAT) and the Logistics Support Team (LST) will prepare the secondary site for full agency presence, solve personnel and logistics support problems, and spearhead the agency's return to 233 Broadway.

3. Preparation: Ensure that the Fund's senior executives, teams, and unit supervisors thoroughly understand this BCP and are ready to act and react appropriately in the event of an order to redeploy. This will be accomplished through prior BCP team and unit supervisor training and dissemination of related materials. In addition, periodic drills will be held that test the ability of the agency to communicate via call tree and to simulate redeployment.

4. Operations: Replicate at Teleport as much headquarters operational functionality as possible, especially within the mission-critical Membership Services, Loan Services, Retirement Counseling, Pension Payroll, and Pension Computation Units. This will be done by: 1) mirroring the Fund's network infrastructure at Telehouse; 2) anticipating unit logistics needs; 3) ensuring daily mail/courier service; 4) notifying active members of the Fund's status and location; and 5) notifying partner city agencies of the Fund's status and location.

5. Staff: Provide work opportunities at Telehouse for all available employees during the redeployment period: 1) pre-assign staff members to shifts and seats per unit supervisor input;

2) adjust agency-requirements to the nature of the emergency and to the personal needs of staff member families.

6. Communication: Rapidly inform the Fund's staff of agency redeployment intentions using multiple media (e.g., business continuity (BC/DR) website, a toll-free number; the Fund's call tree). Rapidly communicate the availability of services to active members using the FINEST messaging system; enable retired members to learn of the agency's status change via the business continuity website.

B.3 CURRENT BUSINESS ENVIRONMENT

Business functionality is provided by business processes performed by the various business units within the Fund. This section discusses these processes and provides some suggestions as to how they can be improved in the new solution.

Before discussing the functionality provided by each business unit, there are a number of overall observations that apply to many of the business processes:

- Manual Data Entry: There are many processes that heavily rely on manual data entry. Manual data entry is a labor intensive activity and often a source of data errors.
- Paper-based Process: Many of the Fund's processes involve the movement of paper from unit to another unit. This practice is costly, non-ecological, and inefficient.
- Use System(s) other than COPS 1.0: Many of the processes involve the use of system(s) other than COPS 1.0, often Microsoft Excel. This could lead to data not being properly stored, conflicts between systems, and inability to reproduce histories.
- Candidate for Self-service: There are certain processes, generally transactional in nature, that are being performed by Fund personnel that could, in fact, be performed by the Fund's membership or by other third-parties who could be allowed to be Users of the new solution.
- Candidate for Tighter Integration: There are times when more than one system is involved in the completion of a process. The extent to which these systems are integrated is directly proportional to the efficiency of the process. There are a number of processes where this interfacing could be tightened, thus reducing manual data entry and speeding up whatever processes are involved.

In addition to the overall observations listed above, the new pension administration solution would greatly benefit from incorporation of Workflow. Whatever the business processes associated with the new pension administration solution turn out to be, Workflow will ensure that these processes are performed in a consistent manner and, if properly implemented, will go a long way into ensuring that no processes will fall through the cracks. It will also provide the Fund the information needed to assess the efficiency of its processes, improvements to them, if necessary, and to identify processing backlogs so that corrective action can be taken.

The following business unit-by-business unit analysis indicated which of the items listed above apply to which process. As appropriate, General comments and opportunities for the future are provided for each business unit.

B.3.1 MEMBERSHIP SERVICES

B.3.1.1 Operational Areas

Member Enrollments

Fund staff appears at each police hire and facilitates the completion of the retirement system application for each new member hired.

The process continues with the creation of a member account, assignment of a tier and membership number and the generation of deduction instructions for transmission to the member's payroll system from an electronic data feed provided by the employer.

For Police Officers, enrollment in the Fund is mandatory. Tier 2 members may also enroll in either or both of the voluntary contribution programs.

The Enrollment process also includes restoring retired/inactive members to active service, and reinstating members to a previous tier, when applicable.

Member Contributions

Employee Payroll Contributions are transmitted from the NYC Police Department via the Office of Payroll Administration.

The Member Contribution process refers to the receipt, processing, and reconciliation of scheduled payroll feeds from OPA/FISA. It includes steps to post employee payroll transactions and update member account balances to reflect the member contributions processed in each payroll.

Cash Receipts (Membership Service, Optional Service, Transfer In, Transfer Contributor)

The Cash Receipts process refers to the receipt of a payment from a member or from a third party for a member, identification of the reason for the payment, posting of the transaction, updating of member accounts, and generation of an acknowledgement letter to reflect receipt of the payment.

Member Profile Updates

The current COPS system receives the majority of the member demographic information, for active members, in the form of a nightly feed from the NYPD.

Member Employment and Service Update

The Fund receives, and updates member employment information including work history and salary. This data determines the member's eligibility for rights and privileges of membership. When updated information is received, information is posted and a recalculation is performed so that the member's account reflects the most current data. The Fund also receives hard copies of employment data and handles those exceptions manually. This data is analyzed by a Fund employee and entered into the system. The three corresponding processes involve the updating of employment information and the calculation of service, reinstating the member, and the purchasing of service.

1. **Service Purchase (buybacks and transfers)**

   The Service Purchase process involves the calculation of the cost to purchase service, receipt of payment, tracking and recording of purchase service, incremental crediting of service based on periodic payments and all related correspondence. This may include prior NYC or NYS service as well as Military service.

2. **Shortages**

   Members of the Fund are required to make pension contributions and often the initial payroll deduction does not occur until after the services originates, thereby creating a shortage. Deductions may also be interrupted, or shortages may be created due to retroactive salary increases or included as part of a membership transfer from another public retirement system. The Fund must notify the member that there is a shortage that must/may (depending on tier) be satisfied. The shortage may be satisfied via lump sum payments or payroll deduction, usually at the discretion of the member.

3. **Employment Updates**

   The rights and benefits available to a member are based on tier and employment information, which includes, but is not limited to, legislative amendments, employer, rank, and employment status (e.g., active, on leave, etc.). Employment information may be received via electronic feed and updated to the system automatically, or via hardcopy reports and entered into the system manually. The creation and updating of employment information will impact the member's service periods, employment status, and may automatically trigger other processes such as a change in payroll deduction instructions (contributions, arrears, loans, etc.).

Salary Updates

Salary is vital to the calculation of the cost for buying back optional service, determining member service deficits, and the calculation of retirement benefits. Salary is updated via an electronic feed for the majority of members.

Service Calculation

This process involves the application of creditable service business rules to a member's employment data to determine the total amount of service a member has completed. Transfers, buybacks, LWOP, and military service all impact the service calculation.

Account Statements

The account statement process involves the production and distribution of both Annual and on-demand member statements. Annual statements are produced in house and distributed to the members' command each year in February. On Demand Statements are produced for active members. Most calculations are completed by the currents COPS system, but some need to be done manually due to special circumstances (reinstatements, managerial, Tier 1 etc.)

B.3.1.2 Interfaces

PMS - Retrieve member's current PD and prior city wide info.

NYCERS - Retrieve member's membership info such as dates, refund history, and titles.

NYPD PEZT - Retrieve member's personal info – names, home addresses, phone numbers, ranks, and commands.

OPA/ Social Security Administration - Members must supply the Fund with their W-2 earnings statement for buyback purposes.

Office of the Actuary - During the reinstatement process, we contact the Office of the Actuary by mail to transfer the unused portion of the ARF to ASF.

Access - RMS database – store new RMS members, lookup active and completed cases, and enter arrears payment information.

Annuity Pension Statement Help Desk – log and report member's issues with their annuity pension statements.

B.3.1.3 Excel

- Equated Date Rates – to determine T2 member's rates – old excel sheet
- ITHP and Additional 50% Calculator sheet – calculate estimated deductions per pay period
- Buybacks - Flat file database used to determine weekly activity and current processing stage of outstanding buybacks.

Table B-5 shows the various processes performed by the Fund's Membership Services Unit.

Table B-5: Membership Services Processes

Process	Manual Data Entry	Paper-based Process	Uses system(s) other than COPS 1.0	Candidate for Self-service	Candidate for tighter integration
New Member Setup	X	X	X		X
Beneficiary Management	X	X		X	
Contribution Managements - Base Rate	X	X	X	X	X
Contribution Managements - ITHP	X	X	X	X	X
Contribution Managements - 50% Additional	X	X	X	X	X
NYS Transfers	X	X			X
NYC Transfers	X	X			X
Buybacks - 5 types	X	X	X	X	X
Shortage Process	X	X		X	X
Check Processing	X	X	X	X	X
Leave Processing	X	X	X		X
Restorations	X	X			
Reinstatements	X	X			
Bounced Check Processing	X	X			
RMS	X	X	X	X	X
Military Leaves	X	X	X	X	X
Statement on Demand	X	X		X	X
Contact info changes	X	X		X	X
New Arrears	X	X	X		X
Arrears Adjustments	X	X	X	X	X
Arrears Partial and Pre-Payments	X	X	X	X	X

B.3.1.4 Opportunities

There are specific shortcomings of the current pension solution that should be addressed in the new pension solution:

- Tier 3 Shortage determination should be real-time with notification to members. This was characterized as a significant benefit to Tier 3 members.
- On return from Military Leave, the current solution does not properly impute the income on which contributions are to be made. A requirement to do this should be considered for the new pension administration solution.

B.3.2 PENSION COMPUTATION

B.3.2.1 Operational Areas

Finalization

The finalization process refers to the steps performed to verify that the member's service, contribution history, and salary history are complete and correct and updated to the date of retirement. This includes any updates to salaries due to arbitration and retroactive salary increases.

Benefit Calculation

The Benefit Calculation and Finalization process is performed to calculate and authorize the Service, Death Gamble, Vested retirement, Disability retirement and WTC Reclassification benefit for which the member applied. This includes the re-calculation of final average salary, the calculation of the monthly retirement benefit itself, the generation of a report for the New York City Office of the Actuary, and the transmission of benefit payment instructions to the Pension Payroll Unit.

Update Salary Charts

When contracts are settled, the Pension Computation Unit prepares salary charts which contain Total Compensation, Holiday Pay, Overtime (Day & Night rate) and Night Differential rate. These charts are distributed to the Pension Computation staff, Retirement Counseling staff and Safeguards unit. Pension Computation also prepares a special salary chart for IT to update the current COPS system.

Refund of Excess

Refund of Excess is the return of any funds in a Tier 2 member's ASF account above the required amount on the members 20th Anniversary. The excess amount may consist of Taxed and/or Untaxed contributions. All members who receive a refund of excess will receive a 1099 from FISA at the end of the year. Any Untaxed contributions withdrawn are subject to a 20%

withholding tax. All members under the age of 59 ½ are also subject to additional 10% penalty (not currently withheld by the Fund). Members may rollover the excess amount to an IRA, 401k or Roth IRA account. Any refund or rollover excess requires the member to have at least 20 years of credited police service.

Cancellation Loan

Any member's account balance above the Required Amount may be used to cancel an outstanding loan. If the loan cancellation results in a taxable distribution, a 1099 will be generated.

Refund of Contributions upon Separation from the Fund

Any member of service who resigns, is terminated, or dismissed is eligible for a refund of the contributions plus statutory interest remaining with the Fund. These funds may be rolled over to an IRA, 401K or Roth IRA, or paid directly to the member. If a member requests a refund of the entire ASF amount, the taxable portion is subject to 20% withholding tax and additional 10% (not withheld by the Fund) if the member is under age 50. Member can also transfer their pension account directly to another New York City or New York State retirement system. Tier 3 members are not allowed to withdraw their ASF account after 10 years of credited police service.

Manual Work Ups

Some benefits cannot be automatically calculated in the current COPS system. Tier 1 members, Managerial Titles, Retired and reinstated (2nd Retirement) members and certain other unusual circumstances must be done manually.

Death Benefits Calculation

Death Benefits Calculation such as the Death Gamble (active members with over 20 years of service and retired members awaiting pension finalization), Accidental Deaths, Ordinary Deaths, Line of Duty, WTC Death benefit, and Vested Death Benefit are all calculated by the Pension Computation Unit.

DRO Pension Estimate

Service and Vested retirement benefit calculations are done when requested by the Legal Division.

B.3.2.2 Interfaces

NYCERS – Access CityNet to obtain member data & salary information for prior city service, Housing & Transit merged members.

CHARMS – to obtain member's breakdown of earnings such as OT, ND or any adjustments.

NYPD Intranet – for Personnel Orders

Payroll Mgmt. system (PMS) –(1) Verifying earnings, Leaves or Retro pay etc. and 700 Report (2) Stop loan payments for loan cancellation.

Comptroller Office – request manual checks for all State & City transfer.

PPMS – Input entry for Refund checks and Separation checks.

NYPD Payroll (1PP) – Inform them if members did not receive the proper increment.

Actuary Office – Certification on CRF transfer and any finalization adjustments.

Table B-6 shows the various processes performed by the Pension Computation Unit.

Table B-6: Pension Computation Processes

Process	Manual Data Entry	Paper-based Process	Uses system(s) other than COPS 1.0	Candidate for Self-service	Candidate for tighter integration
Calculate Pension	X	X	X		
T2, Including Reinstatements, managerial	X	X	X		
T3, Including Reinstatements, managerial	X	X	X		
SADB	X	X			
Option Calculations –not currently performed	X	X		X	X
Separations - Transfers	X	X	X		X
Separations - Refund of Contributions	X	X	X	X	X
Separations - Rollovers	X	X	X	X	X
Refund of Excess - Refunds	X	X	X	X	X
Refund of Excess - Loan Cancelations	X	X	X	X	X
Refund of Excess - Rollovers	X	X	X	X	X
Pension Valuations	X	X	X	X	
Lost Check	X	X	X	X	
Finalization vs Certification	X	X			X

Manage Salary Chart Information	X		X		X

General Comments: The Pension Computation unit is responsible for the finalization of all pension benefits.

Opportunities: Some opportunities for process improvement within this unit are:

- The inclusion of more computational functionality in the new pension administration solution. There are currently some computations (e.g. for certain types of police officers) which cannot be done within the current system.
- Allowing some of the functions being performed by this unit to be performed using member self-service.

The current pension solution does not calculate reinstatement benefits or benefits for managerial employees.

B.3.3 LOANS

B.3.3.1 Operational Areas

Member Loans

To provide estimates of available loan balances, a staff member must apply the business rules of the Fund relating to loans.

Members are eligible to take loans against the balance of their accumulated contributions after three or more years of credited uniformed City service. The member is limited to a maximum of two loans within a twelve-month period, unless the previous loan has been paid in full. A member may borrow up to 90% of the accumulated contributions while they are still a member of the Police Pension Fund, provided they have completed three or more years of credited uniformed city service. For vested members (those with 10 or more years in service), if the total outstanding loan exceeds $50,000(including Deferred Compensation Loans) or is to be paid in a period in excess of five (5) years, then the excess amount over $50,000 of that loan may be taxable. The taxable portion of the loan may be further reduced if the employee account balance included a deferred contribution amount. For non-vested members (those with less than 10 years in service), if the total outstanding loan exceeds the greater of one half of contributions plus interest or $10,000, or is to be repaid in a period in excess of five (5) years, then a portion of that loan may be taxable. The annual interest charged to the unpaid balance is currently 4%, as prescribed by statute.

Loan Application and Verification

Members may mail their notarized loan application or personally deliver to the Fund. On the day of the loan application, the applicant name, tax number and date is manually recorded in a logbook.

Loan Process Preparation

Most loan applications are grouped into batches (25 applications per batch). The Pension loan staff prepares a batch-cover sheet and records the batch number.

Deferred Compensation Loans

The Fund receives Deferred Compensation Loan Applications for processing. The Loans Staff reviews all outstanding Fund loans and determines the highest outstanding balance within the last 12 months. This information is documented and provided to DCP along with the application for use in determining the maximum available loan that can be taken by the member.

B.3.3.2 Interfaces

FISA (PMS/PPMS) - Transmit bi-weekly Loan file through IT to FISA.

- E-mail/phone: if there are any 1099R issues.

Office of Payroll Administration - The Fund's messenger picks up hard copy loan checks.

Comptroller - Messenger takes lost check/stop check paperwork to Comptroller's Office in order to receive a duplicate check.

Office of Labor Relations - Deferred Comp: outstanding DCP Loan feed received through IT Phone: If updated outstanding DCP Loan information is needed to process a Pension Loan application

JP Morgan Chase - Internet: stop checks, verification of outstanding checks E-mail/phone a consultant if a member has an issue at one of the branches.

Table B-7 shows the various processes performed by the Fund's Loans Processing Unit.

Table B-7: Loans Processing Processes

Process	Manual Data Entry	Paper-based Process	Uses system(s) other than COPS 1.0	Candidate for Self-service	Candidate for tighter integration
Loan Estimates	X	X		X	
New Loan Applications - Regular	X	X		X	
New Loan Applications - PRF	X	X		X	
New Loan Applications - Final	X	X		X	
New Loan Applications - Withdrawal	X	X		X	
DCP Requests Processing	X	X		X	X
Loan Management - Change in Terms	X	X	X	X	X
Loan Management - Partial Payment	X	X	X	X	X
Loan Management - Prepayment	X	X	X	X	X
Loan Management - Defaulted	X	X	X		X
Loan Redeposits	X	X	X		X
Lost Check Processing	X	X		X	X
Loan Inquiries	X	X		X	
Transfer Loan Arrears	X	X			X
1099 Processing and management	X	X	X		X
Verifications of deposits	X	X	X	X	X
New Loan Export			X		X

General Comments: The Fund has a complicated loans program allowing two loans within 12 months and a total of up to 10 concurrent loans.

Opportunities: Self-service may be a way to relieve significant amounts of current Fund efforts in this business unit.

B.3.4 SAFEGUARDS

B.3.4.1 Operational Areas

Financial Disclosure Questionnaires

The Safeguards Unit calculates earnings limitations for all disability retirees who have not yet reached their 20th Anniversary.

Letters are prepared and sent requesting the completion of a Financial Disclosure Questionnaires (FDQs) form and the submission of all relevant tax paperwork from previous years for affected members. Contact/follow-up with retirees continues to ensure compliance with requests for information; failure to comply results in held checks or suspension of payment.

Once all of the required information is received, the Safeguards Unit determines whether the retiree is in violation of employment restrictions. If the retiree is in violation, the violation amount is calculated and a recoupment amount is entered into the Pension Payroll Management System (PPMS). Notification is then sent to the retiree.

RSSL § 211 Waivers / § 212 Employment Certifications

Retirees that seek employment with NYC or NYS may be subject to earning limitations. The Safeguards Unit applies business rules as well as waiver information (§211 Waivers/§212 Employment Certifications which are provided by the Department of Citywide Administrative Services as well as the New York State Civil Service Commission) to calculate these limitations. Retirees who violate these limitations are subject to recoupment.

Other Reemployment Violations

Retirees who are collecting a retirement allowance from the Fund are prohibited from contributing to another NYC or NYS retirement system. The Safeguards Unit must suspend the retirement allowance when a retiree joins another NYC or NYS retirement system.

Disability retirees who are collecting a retirement allowance from the Fund may not work for a NYC or NYS agency after his/her 20th anniversary. The Safeguards Unit must suspend the retirement allowance when a retiree is found to be in violation.

Pension Verification Due to New System Membership

The Safeguards Unit Responds to inquiries from other NYC/NYS pension systems regarding specific members' pension status (i.e. suspended, not suspended, waiver status, etc.). Retirees are contacted

accordingly to inform them of reemployment limitations if there is no indication that they are already aware.

Cost of Living Adjustment (COLA)

The Safeguards Unit is responsible for applying business rules to determine/confirm retirees' or beneficiaries' eligibility to receive COLA. They then calculate, approve, and/or apply any retro payments the retiree or beneficiary may be entitled to, add payment to payroll (when necessary), and then notify payee via written communication of the upcoming change to their retirement allowance.

Special Accidental Death Benefit

The Safeguards Unit applies the annual Special Accidental Death Benefit (SADB) increases (eff. July 1st of each year) and notifies the beneficiary of changes to their retirement allowance. They calculate any retroactive SADB money a beneficiary was entitled to and enter that into the PPMS payroll system. The Unit is required to confirm beneficiary eligibility for all SADB children, ages 18-23 by verifying proof of College enrollment. Once a child of the deceased has become ineligible (left college or aged out), the Safeguards unit terminates and/or redistributes the benefit (if applicable).

B.3.4.2 Interfaces

Comptroller

- Audit reports are hand delivered to the agency.
- Lists of Retirees of interest and requests for response to preliminary reports.

Department of Citywide Administrative Services

- 211/211.1(a) waiver approvals are delivered by e-mail to the Safeguards Unit for entry in our databases—they come in the form of a scanned PDF document that gets printed, entered into the systems, and sent for imaging.
- Waiver Expiration reminders are also sent in the same format.

New York State Civil Service Commission

- 211 waiver approvals are delivered by e-mail to the Safeguards Unit for entry in our databases—they come in the form of a scanned PDF document that gets printed, entered into the systems, and sent for imaging.

NYCERS

- Confirmation of NYCERS membership via access to their network.

Teachers Retirement System

- Membership confirmation requests.

NYSLERS

- Requests membership confirmation and status via a physical form sent in the mail. The form is completed and sent back in the mail.

Office of the Actuary

- Notifies Safeguards of updates to COLA and SADB increase rates via memos to the Board of Trustees/Executive Directors of the NYC Retirement Systems

FISA (PMS/PPMS)

- (PMS) Retrieve active employment salaries, pay rates, total gross income, deductions, employment status, etc.
- (PPMS) Retrieve pension pay rates, current address, general pension information, some past pension information, apply deductions for violations, etc.
- (RMDS) Retrieve lists and reports for all retirees who are newly eligible to receive COLA, beneficiaries entitled to SADB increases, error reports, etc.

B.3.4.3 Excel sheets

- **211-212 SUSPENDED MEMBERS**: to keep track of the recoupments due to reemployment violations not related to disability exceeding earnings limitations.
- **FDQ VIOLATORS**: to keep track of disability retiree recoupments caused by earnings in excess of limitation.
- **Child SADB Recipients**: to keep track of the ages and statuses of the LOD children for benefit expiration and because they do not appear on RMDS reports if there are multiple.
- **ANNUAL REPORT FOR SAFEGUARDS**: this is a spreadsheet used to track all FDQ recoupments since 2002.
- **FDQ Pending Log**: tracks disability retirees whose cases need to be readdressed because they have not filed yet or they have paperwork pending.
- **Held Checks List**: when FDQ retirees have not complied with requests and we need to track the checks we are holding.

B.3.4.4 Calculators

- **211.1(a) Earnings Limitation Worksheet**: used when retiree requests estimate and when 211.1(a) waiver is granted.
- **FDQ Violation/Recoupment Worksheet**: used when a violation has been determined and the monthly recoupment needs to be calculated.
- **Retro/Adjusted SADB Calculation Worksheet**: used when there are changes to the member's salary or when SADB increases fail to take effect.
- **212 Violation Calculations**: these are not all built the same way, it depends on the information provided.

B.3.4.5 Access Databases

- **211 & 212 Waiver Log**: this is an old outdated database to keep track of waivers. This is maintained separately in COPS as well.

B.3.4.6 Crystal Reports

- There are reports that are generated in the Crystal Reports that help track the status of FDQs and help pull a list for mailings (i.e. 212 Employment Certification lists). These are not editable or able to be saved, so they are exported into an Excel sheet to make them more functional. As an example we will pull a list of 212 Retirees from the previous year for an annual mailing in January, but we have to maintain the status of their responses in the excel sheet to determine who needs to be contacted in the second mailing.

Table B-8 shows the various processes performed by the Safeguards Unit.

Table B-8: Safeguards Processes

Process	Manual Data Entry	Paper-based Process	Uses system(s) other than COPS 1.0	Candidate for Self-service	Candidate for tighter integration
Financial Disclosure Statement	X		X	X	
Earnings Limitation Calculation	X	X	X	X	X
Waver - 211	X	X			
Waver - 211.a	X	X			
Waver - 212	X	X		X	
Recoupments	X	X	X	X	X
COLA - calculation and Letters		X	X	X	X
Escalation - calculations and letters		X	X		X
SADB - Calculations	X	X	X		X

SADB - Escalations	X	X	X		X
SADB - Reporting	X	X	X		X
Manage SSDB eligibility for Tier3	X	X	X		

Opportunities: There are a number of opportunities for improving the efficiencies within the Safeguards Unit. The financial disclosure statement is something that can be done by member self-service. Tighter integration with FISA, to enable more pro-active notification of members when earnings limitations are being neared, is also an opportunity. There are also a number of calculations being performed using Excel spreadsheets that should be implemented in the new pension administration solution.

B.3.5 Retirement Counseling

B.3.5.1 Operational Areas

Appointment Scheduling

Members contact the Fund or appear in person to schedule an appointment to submit their retirement application. After the appointment date is arranged, a retirement package is given or mailed to the member. The retirement package contains the letters, forms and procedures necessary to complete the retirement process. Members need not make an appointment, as walk-ins are accepted. On rare occasions, home visits are provided for members with disabilities.

Application Submission

Members are required to appear at the Fund with a completed Discontinuance of Service form or Notice of Retirement form signed by their Commanding Officer. The member is assigned to a Retirement Processor to complete the Pension Application as well as all the necessary paperwork (terminal leave calculation, federal tax withholding, beneficiary-option breakdown, information booklet, health benefits application etc.) which initiates the retirement process. Tier Status and Retirement Type have different guidelines. Members may opt to withdraw their application for retirement at any time up until their actual date of retirement.

Tier 2 members may opt to be paid for any accrued terminal leave. A log is kept to track all Terminal Leave Payout letters that are hand-delivered to NYPD's Payroll Unit.

The Retirement Counseling Unit must confer with the NYPD (Employee Management Division) to determine if the member has departmental charges pending. This is to ensure the eligibility for terminal leave.

Benefit Estimate and Explanation

During the counseling session, the counselors provide a detailed explanation of the member's estimated retirement allowance and the funds that are available for withdrawal. Any money withdrawn from the fund may be rolled over or taken directly (applicable tax rules apply).

All Service retirees, with 20 years or more, receive a benefit from the Variable Supplements Fund. Members who remain active beyond their 20th anniversary receive banked variable. This is discussed at the retirement session. This money is taxable and should be rolled over to a Financial Institution as well.

Health Benefits Application

Members retiring with 20 years of service are entitled to medical coverage for themselves and their families. The Office of Labor Relations (OLR) is the Retired Health Benefits Agency for city retirees. After the members effective retirement date, the counselor enters the information from the health benefit application into the NYCAPS system. This ensures that the pensioners benefit is properly transferred from active to retired

NYPD's FINEST Message

Each day a message is generated and transmitted via the FINEST system (an NYPD communications system) notifying all NYPD commands when a member is commencing retirement, changing their date of retirement, or withdrawing their retirement application.

B.3.5.2 Interfaces

NYPD Finest Message - NYPD Database that the Fund uses daily as a formal notification that a member of the Service is commencing, changing and withdrawing their retirement application.

Daily Sheet (Word Document) - Record of a member's retirement application and addendums via mail and e-mail within the Fund and NYPD units. The Fund uses this Word Document to transfer (copy and paste) the information to the FINEST database.

NYPD Discipline Administrative Database System (DADS) - Communication between The Department of Advocate's Office (DAO) and the Fund.

> Alerts the DAO that a member has submitted their retirement application to expedite any pending discipline

FISA PMS - Retrieve and confirm member information- salary, overtime and night differential for any manual estimates – Reinstatements, Detective issue in COPS Det.'s promoted from 2008 that were making more money as a PO than entry level Detective- some MOS over 10 years are corrected in COPS-under 10 years have wrong salary in COPS Confirm outstanding loans and actual contributions of those on suspension.

PPMS - Enter, update and reprint 1099s for retirees with an outstanding tax liability. Year-end check of pension files to verify 1099 address is current.

NYCAPS Office of Labor Relations (OLR)-Retired Health Benefits-Retirement Counseling staff enters member health care information into NYCAPS for OLR to receive new GHI/CBP retired ID cards.

B.3.5.3 EXCEL

- Non-Managerial Terminal Leave Payout (in days)
- Track letters entered and delivered to NYPD Payroll
- Non-Managerial Terminal Leave Payout for Capt. and above (in days)
- Union request for an update
- Health Benefit Log
- Log used to track applications received, entered and hand delivered to OLR
- Monthly Retirement Statistics
- Log of retirement applications by rank, retirement type and addendums
- Retirement Counselor Report
- Number of retirees a counselor has processed
- Chapter 514
- Log all members processed under Chapt. 514
- Tier 3/3R
- Log all members processed for Tier 3 Vested and Disability
- Combo estimate & Combo5yr
- Calculate pension estimate for reinstatements, managers and anyone not correctly handled by Cops at the time.
- 30 Day Notification
- Calculate correct outstanding loan for those on suspension; proper code for 1099 forms; post-option pension value or taxable portion of accident pension for non-Cops calculations; terminal leave, filing deadline, variable supplement amount, shortage cost and final withdrawal beginning dates relating to non-filing inquiries; variable supplement rollover deadlines form.
- Final Withdrawal Election, Final Withdrawal Roth Election & VSF rollover form
- Forms for retirees not handled by Cops at the time
- Final With to DCE
- Log of 1099s processed and final withdrawals sent to Loans Dept.
- No Loans
- Log of outstanding final withdrawals and 1099s derived from The List access database
- Final Withdrawal Default Address
- Pdf form to obtain default mailing information for those who do not return election

B.3.5.4 ACCESS

"The List" - in house record of all member retirement submission, addendums and daily EMD clearances. A new record is created for each retirement application (including multiple applications for a single member).

NYPD Shield and ID Unit – The Fund directs members to return all NYPD issued property.

NYPD License Division - Requests updated Good Guy letters for member retired after September 2009.

NYPD LIMS Unit - The Fund faxes a copy of Daily Sheet with terminal leave days listed.

NYPD EMD/PRU - The Fund mails certain Vested retirement paperwork to Personnel Records.

NYPD EMD/Retiree Clearance – The Fund e-mails Daily Sheet and Weekly Retirements and calls for Retiree clearances.

NYPD IAB – The Fund faxes Weekly Retirements and Daily Sheet.

NYPD Operations Unit - Notifies the Fund about Resignations.

NYPD Payroll Unit – The Fund delivers copy of Finest and Daily Sheet and Terminal Leave Payout letters.

NYC Deferred Compensation (OLR) - 401k Plans - Final withdrawal and Banked Variable rollovers.

A Fund messenger hand delivers the Finest and Daily Sheet to the NYPD mailroom for dispersal to NYPD units.

Table B-9 shows the various processes performed by the Retirement Counseling Unit.

Table B-9: Retirement Counseling Processes

Process	Manual Data Entry	Paper-based Process	Uses system(s) other than COPS 1.0	Candidate for Self-service	Candidate for tighter integration
Scheduling	X	X			X
GHI Healthcare Entry	X	X	X		X
Walk-ins	X	X			
Retirement Case management T2,T3,T3R	X	X			
Retirement Case management - Service		X			
Retirement Case management - Vested		X			
Retirement Case management - ODR		X			
Retirement Case management - ADR		X			
Resignations	X	X	X	X	X
Change of Retirement Selections	X	X			
Option Calculations`- not currently done	X	X	X	X	X
Pension Estimates	X	X		X	X

Opportunities: Self-service is a more effective method of accomplishing this function. This process is further restricted by the inability of the current system to calculate the various options associated with a retirement and, therefore, involving the City actuary.

B.3.6 Pension Payroll

The Pension Payroll facilitates the processing of the initial and ongoing monthly benefit payment for retired members and continuing beneficiaries. The process includes adding, adjusting and removing payments from payroll and transmitting those instructions to the New York City Financial Information Services Agency (FISA) via the Pension Payroll Management System (PPMS). This process also includes the calculation of funding requirements for the Fund's monthly retirement payroll as well the annual Variable Supplements Fund (VSF) which gets paid on or about December 15th.

B.3.6.1 Operational Areas

Changeover/Reclassification Process

After approval by the Board of Trustees, update the retired members new monthly pension; pay any retroactive monies due based on the change in retirement type; recoup any VSF where applicable.

Option Selection Process

When the Option breakdown is calculated by the Office of the Actuary for the individual retired member's pensions and returned to Pension Payroll, that breakdown along with an Option Selection Form is forwarded to the retired member for selection.

Finalization Process

Calculate retroactive money due to the retired members based on their Option Selection for their pension. This is done once the Office of the Actuary certifies the pension and reserve accounts for the retired members.

Customer Service

The Pension Payroll Unit also processes the following transactions for the retired members:

- EFT/Direct Deposit, Address Changes
- W4-P forms (federal tax withholding)
- Award Letters (which can assist members in obtaining a mortgage, loan, etc.), 1099R's, Quarterly Statements
- Lost Checks/Returned Credits

B.3.6.2 Interfaces

OFFICE OF THE ACTUARY - Certify Retirement Benefit – Documents are hand delivered and picked up by the Fund's messenger. This process can occur 2x (or more) for each retired members' certification.

FISA (PMS/PPMS/RMDS) - RMDS – daily and monthly reports are downloaded from RMDS (everything that gets input/deleted to/from PPMS). PPMS is the system utilized for processing all aspects of the retired member's pensions.

OPA - The Office of Payroll Administration cuts the month end payroll checks as well as Loan, Death Benefit and other checks for the Fund. Checks for members in a "Held" PPMS Status are picked up by the Fund's messenger.

Comptroller - The Office of the Comptroller issues replacement and returned credit checks, as well as one-off requests for various pension payments (legal settlements, retroactive payments, etc.). All of this is done via a Fund messenger.

OLR - Limited requests from Pension Payroll to OLR regarding Health Benefits coverage/deductions, etc. Forward all Health Benefits applications to OLR via the Fund's messenger.

Unions - Mail letters to the appropriate union when Vested members reach their 20th Anniversary. Assist in locating retired members when requested.

JPMorgan Chase-Review exceptions as required. Issue stop payment requests on checks as required. All paper records are printed and sent to the Comptroller's office (if necessary), all work is done online.

B.3.6.3 EXCEL FILE NAMES:

- Article 2-Pen Payroll – Totals 20XX
- Payroll Summary PPMS
- Status Codes PPMS (types of retirements/options)
- Reinstated-Suspended-Buyback
- Voucher Monthly
- OMB (month end date).pdf (SADB)
- VSF 20XX
- Finalization worksheet-PPMS Retro Adj
- Finalization worksheet-PPMS Retro Changeovers
- Finalization worksheet-PPMS Tax Free Annuity
- Finalization worksheet-PPMS Taxable ADR
- Retro Adjustment worksheet
- Finalization Worksheet WTC-R
- Finalizations by Month
- Finalizations by Year 20XX Retirees
- Finalization Adjustment worksheet
- Magic book (additions to payroll)
- Future retirees' log
- Banked VSF Rollovers
- Recoupments

B.3.7 DEATH BENEFITS

B.3.7.1 Operational Areas

Notification of Death

The Fund receives notification of the death of a member or beneficiary from various sources. These sources include the Social Security death match, the NYPD Operations and Employee Relations Units, family members of the deceased, etc. Upon receipt of a death notification, the Fund requests verification in the form of a death certificate. Any of the member's transactions that are in process are stopped and the Fund ensures that new transactions for that member cannot be initiated. The Fund then halts collection of member contributions (if the member is an active member under Tier II). Tier III contributions are not stopped. Monthly retirement benefits are terminated and any open account issues connected to the member are resolved.

Benefit Calculation and Finalization

When all accounts receivable and accounts payable issues associated with the deceased member have been resolved, the Fund calculates a death benefit amount. The Fund generates a report to the New York City Office of the Actuary so that the Actuary can certify the death benefit amounts (Ordinary Death Benefits do not have to be certified by the Office of the Actuary). Once the correct beneficiary is determined, beneficiary claim packages which include claim forms, claim form instructions, and benefit estimate letters are generated for the designated beneficiaries. Follow-up communications to the beneficiaries are generated as necessary.

Death Benefit Payment

When all required documents are received, payment of death benefits, if any, will commence utilizing the Pension Payroll Management system.

Overpayments

In the event of an overpayment due to a late death notification, every effort is made to recoup the money owed to the fund. This includes reclamation from the bank if EFT is in effect, offset of outstanding benefits, requests to the estate, legal action.

B.3.7.2 Interfaces

Office of the Actuary - Certifies LOD - Death Benefit payments. Also calculate the Death Gamble Lump Sum and Annuity Amounts and if not finalized calculates the Option # 6 benefits for disabilities. All documents are hand delivered by messenger and picked up by messenger.

FISA (PMS/PPMS) – Death Benefits uses PPMS to retrieve Pension Payroll information in order to put someone on for a pension or take them off. Also to make final (one time) payments.

OPA via NYPD Payroll – Death Benefits FAXs paperwork to the NYPDs Active Payroll Unit regarding unpaid salary and Active Payroll send paperwork to OPA.

NYPD LIMS Unit- For all active deaths, the Death Benefits Unit FAXs information to LIMS to calculate leave balances for payment to any beneficiaries.

NYPD –Death Benefits receive death notifications or provide death notifications from/to the NYPD Operations and Employee Assistance Units.

NYPD D.C. Labor Relations: paperwork is hand delivered for Lump Sum Accidental Death Benefit $25,000.00.

NYPD Medical Division: - Paperwork is hand delivered for initiation of LOD Death Designation application.

Mayor's Office – Paperwork is hand delivered to NYPD for Police Commissioners approval and then hand delivered to the Mayor's office for one year salary death benefit on active deaths.

Comptroller – Request replacement checks, sends them cancellation notices. Documents hand delivered & picked up by messenger. Death Benefits also provide the Comptroller with copies of all death related lump-sum voucher/payments, which are delivered by messenger.

NYC Office of Labor Relations – Regarding Health Benefit issues, all interactions are by telephone, e-mail or hand delivery.

US Department of Justice – File Claim for PSOB via e-mail and US mail.

Police Relief Fund – Paperwork is mailed via US Mail to request reimbursement for funeral expenses.

Unions – Death verifications by phone.

JP Morgan Chase – Stop checks/check inquiry, reversals, reclamations, deletions & returns. Confirmation of outstanding checks, exception activity to approve payments. All done via US Mail and internet.

Microsoft Excel – Monthly Death Payment Log

Microsoft Access - Death Database, Checks, Deaths, and Death Notification Log

Table B-10 shows the various processes performed by the Fund's Death Benefits Unit.

Table B-10: Death Benefits Processes

Process	Manual Data Entry	Paper-based Process	Uses system(s) other than COPS 1.0	Candidate for Self-service	Candidate for tighter integration
Case Management	X	X	X		X
Retro Payments	X	X	X		X
Recoupments of overpayments	X			X	X
Document Tracking	X		X		X
Death Match Process			X		X
PSO Benefit Processing	X		X		X

Opportunities: Opportunities exist through tighter integration with Pension Payroll Management System (PPMS) (or the Payroll Management System – PMS) to make some of the processes more efficient.

B.3.8 CALENDAR PREP

B.3.8.1 Operational Areas

Primarily Calendar Prep is responsible for the processing and scheduling of active and retired members medical disability retirement cases for presentation to the Fund's Board of Trustees, in its executive session.

Preparation of Disability Calendar

The Disability Calendar (PDF format) which is prepared monthly is a listing of members whose medical disability retirement cases will be presented to the Fund's Board of Trustees for review and determination of whether they are entitled to Accident Disability (ADR), Ordinary Disability (ODR), or World Trade Center Disability (WTC). The disability cases which originate from the NYPD Article II Disability Unit are hand delivered to the Fund on a weekly basis. The delivery consists of an original set of signed Article II Medical Board minutes and a computer disc(s) containing medical records for each individual disability case. This information is uploaded into Calendar Preps LAN drive for processing.

Preparation Public Session Agenda

The Public Session Agenda (Word format) contains information received from other Fund units (Loans, Pension Payroll), City Agencies etc. that must be presented to the Fund Board of Trustee's for the purpose of discussion, vote, or information.

Disability Case Management

Upon delivery of a member(s) medical disability case(s) from the NYPD Article II Disability Unit, Calendar Prep staff will acknowledge receipt for case(s) received by entering pertinent information (name, tax #, disability type, etc.) into "COPS" and the "Delivery Log"(excel spreadsheet). The computer disc(s) containing the Article II Medical Boards disability recommendation (medical minutes) and the accompanying medical records are uploaded into the Calendar Prep LAN drive for processing and preparation of the Disability Calendar. Upon completion of the Disability Calendar it will be printed and distributed (hand delivered) along with a computer disc containing all medical records to each member of the Board of Trustees (usually two weeks prior to the Board of Trustees disability meeting.) The information is also uploaded to a FTP secure server for access by members of the Board of Trustees. Post Board of Trustees Meeting (BTM), the Board's rulings are entered into COPS and letters are generated informing the members of the results of the disability meeting. Members who were approved disability will be scheduled for a retirement counseling session. A FINEST message will be generated notifying all NYPD commands of the members who were approved for disability. A complete record of the member's disability case along with the original Article II Medical Board minutes will be delivered to Admin Services for scanning/filing. Results of the meeting will also be entered into the NYPD DADS database.

Police Relief Fund (PRF) non-emergency loans

A PRF non- emergency loan is a grant and does not require the member (retired or active) to repay. There are many scenarios in which a member may need a non-emergency loan. Cal Prep will compile information from the member regarding their request and will present the member's case to the Police Relief Fund Board of Trustee's for a decision.

PRF Emergency Loan

A PRF emergency loan is granted to members of the service who because of a hardship (medical expenses, foreclosure, and death in family) cannot wait for the loan to be processed by the Fund. The member will complete a Fund loan application but the Police Relief Fund will advance him/her the money on the day requested. The loan will be processed as usual by the Fund and the Police Relief Fund will be reimbursed for the advance of the loan on a future date (usually within two weeks).

WTC Verification

In order for a member to be awarded a WTC disability pursuant to Chapter 93 of the Laws of 2005, as amended, a member must have a Notice of Participation on file with the Fund and also be verified for having worked within the first 48 hours from when the first plane struck the towers or participated in rescue, recovery and clean-up operations at a participating site (Fresh Kills Landfill, NYC Morgue, Ground Zero) for at least 40 hours between September 11, 2001 and ending September 12, 2002.

Calendar Prep unit will assist in verifying a member's eligibility for disability based on the above criteria.

B.3.8.2 Interfaces

NYPD Medical Division – Members will file their medical disability applications at the NYPD Medical Division. The case will be presented to the Article II Medical Board for a determination of fitness for duty and then forwarded to the Fund's Cal Prep unit for presentation to the Fund's Board of Trustees.

Office of the Actuary and Comptroller's Office – Documents/reports are prepared by the Actuary/Comptroller's office for inclusion in the Public Session.

Unions – Members of the Fund's Board of Trustees. Executive Session is sent via mail (hand delivery) and over FTP secure server pre BTM.

City Side – Members of the Fund's Board of Trustees – a representative from the Mayor's office Comptroller, Finance and Police Department will receive Executive Session via mail (hand delivery) and over FTP secure server pre BTM.NYPD Discipline Administrative Database System (DADS) – Enter results of BTM

NYPD Finest Message – Enter names of members awarded ADR & ODR

NYPD-Host on Demand – PEZT – Check on member's duty status and command

NYPD Sick Reporting System – Review of member's sick history and duty status for disability case preparation.

Table B-11shows the various processes performed by the Fund's Calendar Preparation Unit.

Table B-11: Calendar Preparation Processes

Process	Manual Data Entry	Paper-based Process	Uses system(s) other than COPS 1.0	Candidate for Self-service	Candidate for tighter integration

Prepare Disability Calendar (Executive Session)		X	X		X
Prepare Public Session Agenda		X			
Disability Case Management	X	X			X
PRF - non-emergency loans		X			X
PRF - Emergency Loans		X			X
WTC Verifications		X			X

Opportunities: The Fund would consider how the NYPD Medical Board could become a User of the new pension solution and dramatically improve the efficiency of this process. This would enable this process to be done in a paperless fashion. It would also be of value to the Fund to be able to continually monitor the status of each disability case.

B.3.9 General Administration

B.3.9.1 Operational Areas

File Requests

File requests are e-mailed to the File Room for processing from individual requesting units. Once the request is received, the file request is processed depending on the status of the member's records; Active and Certified. An Active member record is defined as a paper folder maintained in the physical file room. Certified records and/or Add-on documents are shredded paper folders that are maintained digitally. The following is the procedure that we follow for file requests according to status:

- Active Member Records

  The paper folder is pulled from the file room and scanned and saved as a pdf file. The pdf file is then e-mailed to the requesting unit.

- Certified and /or Member Records

  The member's certified digital copy is extracted from certified Docushare by the requesting unit. An Administration Services staff member will cross check the certified folder with the documents that were scanned into Active DocuShare as an Add-on document. The complete pdf is e-mailed to the requesting unit.

Document Management

- Active Member Documents

  The operational units submit all documents to the File Room for processing. The file room supervisor will categorize the submitted documents and forward to the Duplication office for scanning. The Duplication office will then prepare and index the document into the DocuShare system and forward the document to the file room to be filed in the member's folder.

- Certified and/or Add-on Documents

The operational units submit all documents to the File Room for processing. The file room supervisor will categorize the submitted documents and forward to the Duplication office for scanning. The Duplication office will then process in the Certified DocuShare system. This system is a separate repository than the Active DocuShare repository. The process consists of preparing documents for scanning, scanning, indexing, preforming a quality assurance check and certifying the documents so that they can be destroyed in accordance with the Fund's destruction schedule.

Physical Folder Management

Paper member records are housed in the File Room on the 19th floor. This currently consists of all active members, members that are retired and awaiting finalization and members that have been finalized for 1 year.

When a Fund staff member requests a physical folder from the file room this can either be done in person in the file room or via e-mail by e-mailing the file room staff their request. For in person requests, Fund staff is required to sign out the folder they are requesting in a manual log book located in the file room. The File room staff will then take the manual entered data daily into an Excel spreadsheet. For e-mail requests, the file room staff will enter the request directly into the Excel spreadsheet.

Document Destruction

The following are the two categories of documents that would be applicable for destruction:

- Archive Records (complete member folders)

  After a member has been FINALIZED or WITHDRAWN for one year, member records (files) are eligible for digital imaging and destruction.

  The above documents are scanned indexed and Administrative Services will perform a review by comparing the images produced to the physical folders. Quality Assurance ("QA") checks will consist of a page-by- page confirmation that each page in the folder exists as a readable image. Once the page by page Q&A is complete Administration Services staff will upload the data into Certified DocuShare by Tax Identification number. This member record is certified and the physical folder will be destroyed.

- Certified and/or Add-On Records (individual documents)

  Records that are received for members and their record (file) have been archived, must be retained physically for thirty days within a Fund's document storage facility before they will be eligible for digital imaging and destruction.

  The above documents are processed in the Certified DocuShare system directly. This system is a separate repository from the Active DocuShare repository. The process consists of preparing documents for scanning, indexing, preforming a quality assurance check and certifying the documents. Once the documents have been certified the records will be destroyed based on the destruction policy.

At the time of destruction, a shred manifest is created and signed by the Records Management Officer and the Chief of Staff. The manifest is manually created in an Excel spreadsheet and saved in Administrative Services unit folder within the DocuShare repository.

WAREHOUSE MANAGEMENT

The Fund has space in one warehouse in Westchester, NY. This warehouse holds archived micro fiche that has already been imaged and legacy paperwork from several units that are more than 15 years old. Our projected plan is to review all existing documents that remain in the warehouse and assess their necessity. If there are none, we will appropriately shred all documents.

ANNUAL STATEMENT DISTRIBUTION

The Annual statements are distributed to all active members annually. Administrative Services contacts all the parent commands to confirm that their sub-commands are still active.

COPS generates approximately 38,000 statements. These statements are generated and saved as PDFs by NYPD payroll code. Quality Assurance is performed to assure that both the quality and counts are as expected.

An MS Access database is used to track statement pickups and to generate a printed receipt.

MAIL DISTRIBUTION

The Administration Services unit processes incoming and outgoing agency mail. We currently log all incoming Priority, Fed Ex, UPS, DHL, Express Mail, Certified mail and UPS Packages via the Neopost tracking system which automatically alerts the unit supervisor of a package for pick-up and required signature.

B.3.9.2 Interfaces

DocuShare – Active member digital image repository

Certified DocuShare – Archived member digital image repository

Excel - File Room Log

Access – Annual Statement distribution

Neopost – Mail Tracking System

KODAK Pro Scan – Archive folder scanning

Table B-12 shows the various processes performed by the Fund's General Administration Unit.

Table B-12: General Administration Processes

Process	Manual Data Entry	Paper-based Process	Uses system(s) other than COPS 1.0	Candidate for Self-service	Candidate for tighter integration
File Requests		X	X		X
Document Management - Scanning		X	X		X
Document Management - Indexing and categorizing		X	X		X
Document Management - Certifying		X	X		X
Document Management - Physical Folder Management		X	X		X
Document Management - Document Destruction		X			X
Document Management - Add-ons		X	X		X
Warehouse Management		X			X
Annual Statement Distribution		X		X	X

Opportunities: Proper imaging, with adequate granularity of "Document Type," should help make this business unit much more efficient. The imaging system should enforce document retention policies. The movement of paper also complicates the ability to "certify" documents.

B.3.10 Investments and Accounting (I&A)

B.3.10.1 Operational Areas

Cash Disbursements

The Cash Disbursement E-Ledger reconciliation is performed internally by the Fund. Five business units (Death Benefits, Pension Loans, Pension Computations, Pension Payroll and Accounting and Investments Unit) use the Cash Disbursements E-Ledger for COPS 1.0 voucher issuance. Each unit

issues its own voucher, but has the capability to view the other unit vouchers. At the close of each business month, a Cash Disbursement Summary is created bringing together the totals from the journal transactions.

Cash Receipts

The Comptroller (Bureau of Accountancy) provides the Accounting and Investments Unit with the majority of the information for the Cash Receipt E- Ledger through a hard copy of the Pension Payment Division Cash Receipt Summary Report and the Pension Book. The Fund's Membership Services Unit deposits various liquid instruments taken in by the Fund. Deposits are made by remote scan to the Custodian Bank (J.P. Morgan Chase Bank, N.A.). The bank wires confirmation for all cash receipts for each day within a month to the Comptroller. A bank batch report is given to the Accounting and Investments Unit monthly by Membership Services Unit. Other financial information is provided by the Pension- Payroll and Management Analysis Units. The information provided in the PPD Cash Receipt Summary Report is reconciled by matching the special payments totals against the month's daily deposit totals from the bank. The bank batch reports are reconciled against the month's deposits.

Reconciliation to the General Ledger (GL)

The reconciliation and financial reporting for The QPP uses the Pension Book, Cash Disbursements and Cash Receipts Reports. The Comptroller sends the Pension Book by e-mail and is reconciled into MS Excel producing the Pension Book Trial Balance. The Pension Book Trial Balance, Cash Disbursement E-Ledger, Cash Receipt E-Ledger and Investments are then transferred to the MS Excel Combined Trial Balance.

The closing balances for the MS Excel Combined Trial Balance are compared to the Comptroller's Trial Balance. If the balances reconcile, the QPP Trial Balance is entered into the journal transactions, which are released to the GL, but not posted. Only when the transactions are released to the GL can they be posted to the GL, then the Trial Balance in Solomon can be printed.

Police Superior Officer Variable Supplements Fund (PSOVSF) and Police Officer Variable Supplements Fund (POVSF) Reconciliation

For the PSOVSF and POVSF, all the work comes in from Comptroller who provides the Fund with the PPD Cash Disbursement Report, the PPD Cash Receipts Report and the Pension Book.

The closing balances are compared to the individual opening balances for both the short-term and long-term investments, as well as the Pension Book. If the closing balances reconcile to the Comptroller's opening balances, staff proceeds to enter the journal entries, tracking the movement of cash into an internal spreadsheet. If there is a discrepancy, the Bureau of Asset Management is consulted.

Once reconciliation occurs, entries are journaled and entered into an internal trial balance in MS Excel. This trial balance is again compared to the Comptroller's Combined Trial Balance. Once completed, the trial balance information is entered into Solomon, and then processed to the General Ledger and the Solomon Trial Balance is produced.

Note: Starting in Fiscal Year 2017, the New York City Police Pension Fund will download the investment information directly from State Street Bank. The PSOVSF and POVSF have no computation or reporting functions in COPS 1.0.

Comprehensive Annual Financial Report (CAFR)

Each calendar year the Accounting and Investments Unit compiles and presents the Comprehensive (CAFR) to the Government Financial Office of Accounting (GFOA). This report consists of various sections and does not directly utilize COPS 1.0. The Accounting and Investments Unit prepares the Introduction Section, and in conjunction with the Comptroller' Bureau of Asset Management, the Financial Section. The Financial Section is audited by the City's independent auditor. The Office of the Actuary prepares The Actuarial and Statistical Sections.

Accounts Payable

Another component to the Accounting and Investments Unit is Accounts Payable. All accounts payable invoices are signed by the individual business unit as to the acceptance of goods and services. The Deputy Executive Director then signs authorizing payment. Once the invoices are signed they are entered into the Solomon Accounts Payable Module. After the checks are printed, both the checks and invoices are reviewed by unit personnel. Subsequent to payment verification, the checks are sent to the Comptroller for signing. When checks are returned, the Fund notifies J.P. Morgan Chase Bank, N.A. of payment through their Chase Access platform. Checks are then mailed out.

Procurement

The Procurement Unit reviews all purchase requests for good and services to determine method of procurement (i.e. small purchase orders or competitive requests for quotes). The Director of Procurement supervises the procurement employee(s) responsible for purchasing, inventory control maintenance of office equipment and delegates the workload accordingly. Procurement obtains data needed in preparation of invitations for bid and requests for proposal and determines appropriate solicitation procedures. It also prepares documents for bid and/or proposal solicitations for the processing of contract awards, registrations and modifications; organizes the Offeror's packages for solicitations; develops bid schedule, identifies special conditions, determines level of competition and solicits bids and proposals from potential contractors.

Procurement also reviews bid and proposals submitted by Offeror/providers to ensure conformity to, city, state, and federal requirements and it relates to intergovernmental contracts.

The Fund's Procurement Unit monitors contractor's performance and acts as the primary liaison among the entity, contractors and business representatives. Procurement is responsible for preparing fiscal expense summary reports and makes budget recommendations. The Unit ensures that the contract meets all responsibility standards in accordance with the NYC Procurement Policy Board rules.

Procurement takes corrective actions where Offerors fail to provide contracted goods or services or deficient in honoring the terms of the contractual agreement. It also makes recommendations for non-awards or cancellation of contract based on contractor's non-responsibility and poor or non-performance.

All procurement functions for purchasing, budget reconciliation and payments are processed in MS Dynamics SL.

Table B-13 shows the various processes performed by the Fund's Investments and Accounting Unit.

Table B-13: Investment and Accounting Processes

Process	Manual Data Entry	Paper-based Process	Uses system(s) other than COPS 1.0	Candidate for Self-service	Candidate for tighter integration
Cash Receipts	X	X	X	X	X
Cash Disbursements	X	X	X		X
Accrued Benefits Payable	X	X	X		X
Voucher Management	X	X	X		X
Fund Accounting	X	X	X		X
Deposit Reconciliation to PCEF	X	X	X		X
CAFR Output	X	X	X		X

Opportunities: The new pension administration solution should be tightly integrated with the accounting system. The pension solution should behave as a sub-ledger to the accounting system's general ledger – including the synchronization of accounts. Such integration will result in significant efficiency gains in the way the Fund performs its financial accounting.

B.3.11 LEGAL

B.3.11.1 Operational Areas

The General Counsel serves as counsel to the Executive Director, while also providing legal guidance to the agency staff through her office. Such guidance includes interpretation of statutes and judicial decisions that impact the Fund.

Legal Issues Involving the Fund

- Counsels operational staff in decision making to ensure legal compliance with local codes, as well as state and federal laws.
- Issues legal memoranda, agency policy statements, legal opinions, affidavits, and other legal papers to operational and executive staff.
- Works with the New York City Office of the Corporation Counsel and the Office of the Actuary on City wide issues impacting all City public retirement systems.
- Tracks class action litigation against the Fund, and responds to office actions from the Department of Labor and Equal employment Opportunity Commission/NYS Division of Human Rights.
- Works with the Office of the Corporation Counsel and outside tax counsel to ensure compliance with the Internal Revenue Code to maintain qualified plan status.

Legal Issues Involving Members

- Evaluates and implements garnishment orders, including Domestic Relations Orders, Income Execution Orders, Income Withholding Orders, and Income Tax Levies.
- Evaluates and implements legal papers that delegate member authority, such as Powers of Attorney and Guardianship Orders.
- Evaluates other legal papers for the staff to facilitate performance of daily operations; such papers include, but are not limited to, Letters of Administration, Letters Testamentary, and Judgments of Divorce.
- Manages litigation commenced by members against the Fund, typically as an Article 78 proceeding challenging a disability determination as arbitrary and capricious.

B.3.11.2 Interfaces

- **Litigation Tracking System** - in-house developed database application that is designed to document and track the status of all litigation involving the Fund.

Table B-14 shows the various processes performed by the Fund's Legal Unit.

Table B-14: Legal Processes

Process	Manual Data Entry	Paper-based Process	Uses system(s) other than COPS 1.0	Candidate for Self-service	Candidate for tighter integration
Article 78	X	X	X		X
Subpoena Processing and Tracking	X	X	X		X
Records Request Processing and tracking	X	X	X		X
Pension Valuation	X	X	X	X	X
Certified Domestic Relations Orders	X	X	X		X
Proposed DRO	X	X	X		X
Restraining Orders	X	X	X		X
POA / Guardianship	X	X	X		X
Litigation Tracking	X	X	X		X
Recoupments	X	X	X	X	X
Income Execution Orders - Child support	X	X	X		X
Income Execution Orders - Spousal Maintenance	X	X	X		X
Manage Court Ordered deductions	X	X	X		X

General Comments: The Fund's Legal Unit currently uses a custom-built proprietary system to track the various legal matters for which it is responsible. The Litigation Tracking System (LTS) is an in-house developed database application that is designed to document and track the status of all litigation involving The Fund. The application went live in January 2016.

The LTS database is an Oracle 10g database with the front-end developed in Oracle Forms 10g. The LTS database has been developed independently from the COPS database, but utilizes data from the COPS application and uses COPS user login credentials. This ensures that all LTS users who are also COPS users can use the same User ID and password for both.

The database consists of 10 tables and reads COPS data from the Calendar Prep module.

For each case LTS captures case notes, attorney information, file requests, litigation notes and recoupments.

Opportunities: The new pension solution should have all of the functionality of the proprietary system, with access limited to the Legal Department.

B.3.12 MANAGEMENT, ANALYSIS, AND PLANNING (MAP)

B.3.12.1 Operational Areas

PCEF Process

PCEF stands for Payroll Cycle Extraction File. These files are produced by NYPD as part of their biweekly payroll process. These files contain member demographic information, earnings information, and contributions / monetary payments to the pension fund.

This process is completed every two weeks if the main source of information concerning our members' work status, rank changes, leave information and earnings.

The first stage of this process is done in a staging environment that mirrors production. Once completed successfully it is processed into production on a scheduled Friday morning.

Management Reporting

The MAP team is often called to produce complicated management reports both on a regular and ad hoc basis. These reports are typically built in raw SQL and executed against the production database. The reports are typically formatted for delivered within MS Excess.

The MAP team produces a monthly Management Dashboard which is MS Excel based presentation of data collected from both the existing systems database or manually from some of the business and technical units.

Support of Data Related Audits and External Processing

The MAP team supports all data related audit and reporting processing. The first major annual project is the production, analysis and delivery of the annual data feed to the Office of the Actuary to support their Annual Plan Valuation. The second project is the production of the data need by Investment and Accounting to support the annual comptroller's audit. The third annual project is to product the data reports to support the creation of the Supplemental Accidental Death Benefit voucher.

Table B-15shows the various processes performed by the Fund's MAP Unit.

Table B-15: MAP Processes

Process	Manual Data Entry	Paper-based Process	Uses system(s) other than COPS 1.0	Candidate for Self-service	Candidate for tighter integration
PCEF	X		X		X
Annual Statement QA		X		X	
OA Annual Reports			X		X
Annual Auditor Reports					X
Pension Adjustments	X				
Management Dashboards	X	X		X	
SADB Annual Reports - OA	X	X			
SADB Annual Reports - Comptroller	X	X			
Tier Change Account Recalculation		X	X		X
Ad hoc Reporting		X	X		X

B.3.13 Addressing Current As Is Business Functionality and Opportunities for the Future

Proposer should address how the proposed solution will improve upon the current as-is business practices as described in Section B.3. This should be contained in Artifact P-2, Business-Focused Pension Solution Overview (see Section C.3.3).

B.4 CURRENT BUSINESS APPLICATIONS

Major applications supporting the current retirement administration operations of the Fund are presented in Table B-16 below.

Table B-16: The Fund's Current Major Applications

APPLICATION	PURPOSE
Vitech V3 (COPS 1.0)	Pension Administration
SOLOMON	Accounting
DocuShare	Imaging
Litigation Management System (Proprietary)	Legal Issue Tracker
Excel Spreadsheets/External Databases	Non-standard benefit calculator

The Fund will assume responsibility for all operational and programming support of its legacy systems. The Offeror will have no responsibilities in this regard. Also, the Fund will assume responsibility for all activities relating to the shutdown / decommissioning of legacy systems after cutover to the new solution.

B.4.1 PENSION ADMINISTRATION SYSTEM

The current pension administration solution being used by the Fund is a customized Vitech V3 application. In 2003 Vitech and the Fund started the development of COPS 1.0 using the Oracle toolset (Oracle 9i RDBMS, Oracle application server and Oracle FORMS). The application went live on March 17, 2008. In 2010 the database was upgraded to Oracle 10g RDBMS. Application maintenance was performed by Vitech until 2011 when the maintenance function was moved in-house to Fund staff.

B.4.1.1 Hardware and System Software

The Fund utilizes virtual machines to run its 66+ Windows NT Servers. The Windows 2012 Hyper-V host is a four cluster HP DL580 G7 Intel Xeon with 4 processors, each with 10 cores, and 512 GB RAM. The four node Hyper-V cluster is connected to an EMC VNX 5500 disk array with 144 TB of tiered storage using flash, SAS and NL-SAS drives. Both Staten Island Telehouse production computer room and headquarters have identical Hyper-V clusters and 144 TB EMC VNX 5500 disk arrays. The Manhattan Headquarters site is in standby mode. The two disk arrays are synchronized in near real-time over the 1 GB EPL data link using EMC Recover Point Appliances. The COPS platform was developed using the Oracle toolset: Oracle RDBMS database, Oracle application server and Oracle FORMS. The

COPS server runs Oracle 10g RDBM on a physical HP DL785 server with 4 TB of EMC VNX SAN disk space, 512 GB RAM and 8 AMD CPU with 6 cores per CPU.

The Fund's current inventory of printers is provided in Table B-17 below:

Table B-17: The Fund's Current Printer Inventory

Make	Model
Lexmark	T654dn B&W
Lexmark	C736dn Color
Xerox	WorkCentre 5890/5890/5875/C75/ D125

B.4.1.2 Application Software

Application software found on typical workstations at the Fund is presented in Table B-18 below:

Table B-18: The Fund's Current Workstation Software

Software Name	Developer	Version	Purpose
Windows 10	Microsoft	10	Operating System
Office 2013	Microsoft	2013 SP1	Office Automation Tools
Acrobat DC	Adobe	12	PDF Editor / Viewer
Host on Demand	IBM Rational	11	Mainframe 3270 Screen Emulator
Anti-Virus	McAfee	8.8	Anti-Virus Scanner
Agent	McAfee	5.0.2	Anti-Virus Updater
SecureZip	PKWare	14.4	Encrypt files
RealVNC Enterprise	RealVNC	4.6	Help Desk Remote Control
PowerChute	APC	3.0.1	Desktop UPS
Java	Oracle	6 update 29	Runtime Engine
DigitalPersona	DigitalPersona	4.4.3	Biometric Fingerprint Reader
RealVNC	RealVNC	4.6	Help Desk Remote Control

Major applications supporting the current operations of the Fund are presented in Table B-19 below:

Table B-19: The Fund's Current Major Applications

Application	Purpose	Developer
COPS	Pension Management System	Vitech / Fund
Docushare	Document Image Management	Xerox
Solomon	Accounting	Microsoft

B.4.1.3 Application Data

The current data structure and stored procedure code are proprietary and belong to the vendor of the Fund's current software platform. Such proprietary information would not be made available to the winning vendor unless a Limited License Grant is approved by the proprietary vendor.

B.4.2 Financial Management Sub-System

Solomon, a Microsoft Corporation product, is the system the Fund uses as its financial management system. Microsoft no longer markets "Solomon." It has been subsumed under the Microsoft Dynamics products.

B.4.2.1 Business Functionality

Solomon is used to record and reconcile all financial transactions performed during the Fund's administration of its pension plans.

B.4.2.2 Financial Management Application Software

The Accounting and Investments Unit uses COPS 1.0 for issuing certain vouchers and viewing other vouchers. The unit does not perform reporting calculations or generate reports currently in there.

The Accounting and Investments Unit uses Microsoft Dynamics SL 2011 Ver. 8 (Solomon) for its General Ledger Software for financial reporting. The Qualified Pension Plan (QPP) also known as the Main Fund), Police Superior Officers' Variable Supplements Fund (PSOVSF) and Police Officers' Variable Supplements Fund (POVSF) use the Solomon Investments and Accounting Module, which, in turn, consists of 9 sub-software modules. These modules are: Journal Transactions, GL Batch Register, GL Transactions, Detail GL, Post Transactions, Trial Balance, Chart of Accounts, Chart of Accounts Maintenance, and Closing.

Solomon has the capability to export posted financial information into MS Excel. Under COPS 1.0, the Investments and Accounting Unit issues vouchers in the Investments and Accounting Module for three sub-categories which are Miscellaneous, Trustee Expense and the Comptroller's Grant. The other

vouchers issued by the other business unit in COPS 1.0 business units are Read-Only for the Accounting and Investments Unit.

Under the current setup, the Accounting and Investments Unit handles the reconciliation and financial reporting for the QPP using the Cash Disbursement E-Ledger, Cash Receipt E-Ledger as well as the Pension Book and Investment transactions obtained from the Office of the Comptroller (Comptroller). The combined Trial Balance consists of the Cash Disbursement, Cash Receipt, Pension Book and Investment transactions.

B.4.2.3 Financial Management Sub-System-Specific Data

- COPS 1.0 — Fund server
- Microsoft Dynamics SL 2011 Ver. 8 (Solomon) — Third Party server owned by Queue Associates.
- **Sub Journal Transactions:** GL Batch Register, GL Transactions, Detail GL, Post Transactions, Trial Balance, Chart of Accounts, Chart of Accounts Maintenance, and Closing the QPP, PSOVSF and POVSF all have their own 9 sub-modules.
- MS Excel
- MS Publisher
- Accounts Payable

  Microsoft Dynamics SL 2011 Ver. 8 (Solomon)—Third Party server owned by Queue Associates.

  Sub Modules: Vouchers & Adjustment Entry, Payment Selection, Check Preview, Checks, Check Register
- Procurement

  Microsoft Dynamics SL 2011 Ver. 8 (Solomon)—Third Party server owned by Queue Associates

  Sub Modules: Vendor Maintenance, Read-Only function for checking Offerors in Vendor Inquiry and Vendor History,

B.4.3 IMAGING SYSTEM

DocuShare, a Xerox Corporation product, is the Fund's repository for all paper documents received by the Fund. Since April 2003, the Fund has continued to upgrade and expand its usage of the Xerox Docushare Document Image Management System. Today all member folders are imaged and stored within Docushare which contains over 1,058,402 documents and 8 million pages. This allows staff to lookup a members file within seconds from any desktop.

B.4.3.1 Business Functionality

Imaging

The existing imaging solution has been designed and configured with 10 index attribute and image storage structures.

There are two classes of documents in the system, Member Records and Employer Records. Every document in the Member Record class has been indexed using the indexing structure shown in Table B-20 below:

Table B-20: Current Folder-Level Member Record Index Structure

List of Member Indices	Maximum Size
Social Security Number	9
Membership Number *	6
First Name	20
Last Name	20
Date of Birth	10
Legal Status	1
Document Name / Type	30
Document Effective Date	12
Microfilm Roll	4
Microfilm Frame	4

Documents in the Employer Record class (primarily, paper-based, wage and contribution reports submitted quarterly) have been indexed as indicated in Table B-21 below:

Table B-21: Current Folder Level Employer Record Index Structure

Indices	Maximum Size
Employer ID	6
Employer Name	40
Employer County	3
Document Type	40

Indices	Maximum Size
Document Date	10
Microfilm Roll	4
Microfilm Frame	4

Table B-22 below provides a summary of the quantities of documents involved in the current imaging solution:

Table B-22: Current Document Quantities

Item	Quantity
Incoming Mail	100 pieces/day
Pages of Mail	150 pages/day
Member Records in Imaging System	122,127 folders
Member PDF in Imaging System	1,075,971 PDF documents
Average Number of Pages per Folder	160 pages
Size of all 1 million PDF documents	1 TB
Pages of internally generated correspondence	100 pages/day

Fax

The Fund currently handles 7 inbound / outbound faxes daily.

B.4.3.2 Imaging Hardware and System Software

B.4.3.2.1 Document Image Management System

The Fund is moving towards a paperless office. Since April 2003, the Fund has continued to upgrade and expand its usage of the Xerox Docushare Document Image Management System.

- Member Folders are imaged and stored within Docushare which contains over 830,000 documents and 13 million pages. This allows staff to lookup a member's file within seconds from any desktop, provides easy copies and secure off-site backups.
- Microfiche Converted to PDF Documents – The Fund converted our historical microfiche films sheets into PDF documents. These documents were then added to our Xerox Archive Docushare Image Management System which contains 135,000 TAXID folders and 6.7 million pages.

B.4.3.2.2 WTC 9/11 Document Image Management System

The Fund stores 140,000 PDF documents containing over 1.2 million pages as part of the City's WTC 9/11 Verification project. To assist with WTC Verification, we processed these images with an OCR engine to index text with PDF files. Then the files were added to a Xerox Docushare server to create a master index. Now it is possible to locate a document by Name, TAXID and Shield Number for information listed on computer generated NYPD Roll Call documents and other forms.

Current Imaging capabilities are described in Table B-23 below.

Table B-23: The Fund's Existing IMAGING System

IMAGING System	
General Purpose	Imaging, Workflow , Document Image Management
Technology	Browser-based, PDF and database
Software	Xerox Docushare
Installed	2003
Operating System	Microsoft Office 2008 R2
Data Base Management System	Microsoft SQL Server

In addition, the Fund maintains a Fax Server capable of handling in-and out-bound faxes. The physical server is running Microsoft Windows 2008. The RightFax server is capable of managing faxes on eight (8) dedicated analog fax lines.

B.4.3.3 Imaging Application Software

The Fund uses DocuShare, which is a content management platform. It manages a wide range of paper and digital content.

B.4.3.4 IMAGING Sub-System-Specific Data

Documents are store under the member's Tax ID folder.

B.4.4 LITIGATION MANAGEMENT SYSTEM

B.4.4.1 Business Functionality

The Litigation Tracking System (LTS) is an in-house developed database application that is designed to document and track the status of all litigation involving the Fund. The application went live in January 2016.

The LTS gives the Legal Division the ability to monitor all affirmative and defensive litigation, as well as in house cases such as overpayments of pensions, tracked as recoupments. The LTS allows the user to input the jurisdictional information (forum and venue, i.e. New York County Supreme) for active litigation, as well as track the judges assigned to each case and the outcome.

The LTS database is an Oracle 10g database with the front-end developed in Oracle Forms 10g. The LTS database has been developed independently from the COPS database, but utilizes data from the COPS application and uses COPS user login credentials. This ensures that all LTS users who are also COPS users can use the same User ID and password for both.

The database consists of 10 tables and reads COPS data from the Calendar Prep module.

For each case LTS captures case notes, attorney information, file requests, litigation notes, filing/docket numbers, and case status, which mirrors the same demographic information outside counsel captures on each case and readily provides pertinent information.

Reporting function has not yet been developed and the Legal Division is currently only using the LTS to input data and track active cases.

B.4.4.2 Litigation Management Application Software

In-house Oracle Forms application.

PART C PROJECT SCOPE

C.1 NATURE OF DESIRED SOLUTION

The primary objective of this project is to implement a self-hosted, stable, state-of-the-industry, fully integrated solution capable of supporting the Fund's mission well into the future. It must enable Fund staff to perform all of their current duties; such as calculation of member retirement estimates, employee contribution and benefits, maintaining wage and contribution information, maintaining service credit information, processing requests for information, contribution refunds, refund buybacks, purchase of service credit, related financial reconciliation and integration, and actual retirements (i.e., including but not limited to researching / reviewing the member's service credits and wage and contribution history, calculating benefits, setting forth retirement options, adding the member to the benefits payment capability). At a minimum, a new solution must provide all of the functions of the existing system used to conduct the Fund's business.

Additional objectives to be served by this procurement include:

- Improved service levels to members
- Improved, centralized management of member and retiree information
- Increased work efficiency, integrating checklists and steps that are now manual into streamline business processing
- Implementation of new imaging system Implementation of workflow; reflecting current best practices
- Web-based, self-service functions for members, and retirees
- Improved accuracy of all information collected, maintained, and provided by the Fund
- Improved timeliness and accuracy of responses to members' inquiries
- Improved system audit and control capabilities
- Improved system security and controls
- Ad-hoc and custom reporting tools
- A secure environment for the receipt, processing, storage and transmittal of all information related to Fund business operations.

Finally, and perhaps most important, the Fund requires that the new solution assist the staff in their mission of providing the best possible service to the membership. The Fund is committed to increasing its use of technology to provide ever more accessible and member-oriented service to its membership. The Fund looks to the new solution for more extensive use of web-based technologies for member-based communications. Improved web-based, member self-service is a significant goal in the implementation of the Fund's new LOB solution, including availability on mobile devices in the future.

The Fund desires to accomplish these goals with as much standard "off-the-shelf" technology and software as possible, to optimize both efficiencies and effectiveness in its retirement services delivery offerings.

Offerors are encouraged to present solutions that embrace enabling technologies. The solution proposed to the Fund must generally reflect the capabilities available to the most technologically enabled public

retirement systems. The Fund desires proposals for modern solutions, i.e., open solutions, modern database management capabilities, and user-friendly interfaces. However, the Fund does not wish to be a test or "beta" test site for such technologies and solutions.

Proposer must address all of these objectives in Artifact P-2, Business Focused Pension Solution Overview (see Section C.3.3).

C.2 PROJECT TIMETABLE – MAJOR DELIVERABLES

Offerors must provide a detailed listing of deliverables (as an Appendix to Artifact I-12, SDLC Methodology Overview) that will be produced for the project with estimated completion dates and corresponding project / resource plan. This section consists of a list of the minimum set of high-level deliverables required for the project. The due dates for the minimum set of deliverables fall into three categories: those with delivery dates contingent on the contract start date (provided in Table C-1), those with delivery dates contingent on the start date of a functional rollout, and those with delivery dates dependent on the proposed structure of the project plan.

Table C-1 below lists those deliverables with delivery dates predicated on the contract start date. These deliverables as well as all the others listed in this section must all appear in the Offeror's Detailed Project Work Plan.

Table C-1: Deliverables and Due Dates for Major Deliverables (From Start of Contract)

Nbr	Deliverable	Days Post Contract Start
1	Detailed Sixty Day Work Plan	10
2	Detailed Project Work Plan	60
3	Concept of Operations Document	60
4	Development Methodology Overview	60
5	Risk Management Reporting Methodology	90
6	Requirements Traceability Matrix	90
7	Change Control Plan	90
8	Problem Incident Reporting Methodology	90
9	Installation/Configuration of Hardware	120
10	Installation/Configuration of Commodity Software	120
11	System Security Plan	120
12	Functional Plan	120

The following further defines identifies the minimum set of high-level deliverables required of the project. The list includes deliverables identified above (i.e., those with dates predicated on project start date) as well as deliverables due on a functional roll-out or work unit basis, and those on a schedule dictated by the project plan developed by the Offeror:

1. DETAILED SIXTY DAY WORK PLAN

The Offeror must provide a complete, detailed plan covering all activities to be undertaken during the first sixty days of the project at the time of contract signing. This plan forms the basis for the next deliverable,

the Detailed Project Work Plan, but also provides the Fund with information about what is happening during the first two months of the project, when personnel will have to be available for consultation, for document review, etc. The plan must include all deliverables due before or at the end of the planning phase of the project, complete with start dates, completion dates, hours to complete, dependencies, Offeror and Fund resources assigned and project milestones. The work plan will be reviewed at weekly meetings between the Fund and the Offeror.

2. Detailed Project Work Plan

The Offeror must provide a complete, detailed plan of all activities required to meet all of the project requirements including: system design; development (to meet custom requirements); user, administrator and developer training; testing; conversion; and post-installation warranty. Building on the initial Sixty Day Work Plan, the plan must include all project deliverables, all detailed tasks with start dates, completion dates, hours to complete, dependencies, Offeror and the Fund's resources assigned and project milestones. The work plan must reflect the phasing of the project as described in Section C.5.1.7. This plan must be established and maintained by the Offeror throughout the life of the project using Microsoft Project. It will be reviewed at weekly meetings between the Fund and the Offeror. The detailed plan must be presented to the Fund within the time period indicated in Table C-1; it is to be updated whenever any changes are made to the plan but no less frequently than quarterly.

3. Concept of Operations Document

The Offeror must provide a top-level Concept of Operations (COO) document, described in detail in Section C.5.2.1of this RFP. The COO is to describe in user-oriented language (without technical terms) how the new solution will operate from the user's perspective. It must explain what the users should expect in terms of the new system's functionality and graphical user interface – e.g., screens, processes, calculations, and workflow. The COO must be presented to the Fund no later than the time period indicated in Table C-1.

4. Development Methodology Overview

The Offeror must provide a top-level Development Methodology Overview – End User (DMO) document, described in detail in Section C.5.2.2 of this RFP. The DMO must describe, at a high level, how the system will be defined, designed, tested, and deployed, i.e., the Offeror's development life cycle for the project – aimed at end-users. The DMO must be presented to the Fund no later than the time period indicated in Table C-1.

5. Risk Management Reporting Methodology

Within the time period indicated in Table C-1, the Offeror must deliver a detailed Risk Management Reporting Methodology for use throughout the project in reporting risks identified during the course of the project. See Section C.5.3.8 for details.

6. Requirements Traceability Matrix

The Fund will develop and provide to the Offeror the Requirements Traceability Matrix within the time period indicated in Table C-1. The Offeror must update and return it to the Fund also within the time

period indicated in Table C-1. Refer to Section C.5.3.1 on the Requirements Traceability Matrix for additional information.

7. Change Control Methodology

Within the time period indicated in Table C-1, the Offeror must deliver a detailed Change Control Methodology for use throughout the project. See Section C.5.1.5 for details.

8. Problem Incident Reporting Methodology

Within the time period indicated in Table C-1, the Offeror must deliver a detailed Problem Incident Reporting Methodology for use throughout the project in reporting production problems as well as problems identified during testing activities. See Section C.5.3.7 for details.

9. Installation/Configuration of Hardware

All hardware specified for the solution must be suitably installed and configured. Hardware installation and configuration must be completed no later than the time period indicated in Table C-1. See Section C.4.8 for detailed requirements in this regard.

10. Installation/Configuration of Commodity Software

All commodity software specified for the solution must be suitably installed and configured on the specified hardware. This includes not only operating system and database management software and various software tools, but also all required commodity software associated with integrated imaging and workflow management capabilities. Software installation and configuration must be completed no later than within the time period indicated in Table C-1.

11. System Security Plan

Within the time period indicated in Table C-1, the Offeror must deliver a completed System Security Plan that provides an overview of all of the security requirements associated with the pension application throughout its life cycle. The plan must describe the processes and controls that are necessary to protect the application from loss, misuse, or unauthorized access to or modification of information as well as the protection of data, etc., during the life of the project.

12. Functional Rollout Plan

A detailed rollout plan for each functional cutover phase must be provided for review and approval by the Fund within the time period indicated in Table C-1. The plan must detail tasks, responsibility, duration, deliverables, and "ownership" among all project stakeholders (i.e., the Fund, the Offeror, and all involved third parties). The plan must detail week-by-week, day-by-day, and in some cases hour-by-hour activities.

Table C-2 below lists those deliverables contingent on the start date of a functional rollout. These deliverables as well as all the others listed in this section must all appear in the Offeror's Detailed Project

Work Plan. Note that no dates relative to start of functional rollout is given. The complexities of functional rollouts vary significantly and, as such, it would be premature to affix dates.

Table C-2: Deliverables and Due Dates for Major Deliverables (Relative to Functional Rollout)

Nbr	Deliverable
13	Detailed Requirements Definition
14	Detailed System Design Specification
15	Data Conversion and Migration Plan(s)
16	Data Bridging Plan(s)
17	Test Plan(s)
18	Training Plan(s) and Training Materials
19	As-Built Documentation

13. Detailed Requirements Definition

Prior to the installation, design, and construction of each major phase, a detailed requirements definition document will be submitted to the Fund for review and approval. This document will describe, for each phase, the requirements to be met by the particular phase. When all of the phases are viewed "in total", ALL requirements defined in the RFP will have been defined at a detailed level.

14. Detailed System Design Specification

The Detailed System Design Specification must include all components of the system. It should include use cases, use case models, site map(s), data element dictionary, logical data models, physical data model, deployment diagrams, activity diagrams, integration build plans, design packages, design models, interface design models, process flowcharts, and supplementary specification documents. The method of implementing security in each application element must also be defined in this specification. The Offeror must conduct walkthroughs of the Detailed System Design with appropriate members of the Fund's project team and provide demonstrations to enhance the Fund's understanding and to facilitate review and approval by the Fund.

15. Data Conversion, Cleansing, and Migration Plan(s)

A Data Conversion, Cleansing, and Migration Plan must be provided for each functional rollout of the project. The plan will include a detailed description of the conversion methodology and process, a description of the process for keeping new and old systems synchronized, a description of any parallel processing supported, and a description of the quality assurance process to assure that all records have been converted correctly and fully. The Fund anticipates the need for multiple Data Conversion and Migration Plans, corresponding to the project phases.

16. Data Bridging Plan(s)

A detailed plan for bridging data between the legacy system and the new solution during the period when both systems will be in use must be provided. The Fund anticipates the need for multiple Data Bridging Plans, corresponding to the project phases.

17. Test Plan(s)

The Offeror will be responsible for the development of all test plans for the entire system to be implemented at the Fund, not just for the customizations implemented specifically for the Fund. This includes all unit tests, system tests, and User Acceptance Tests. The Offeror will design and develop test scenarios, test variants, test cases, test data, and expected test results for each phase of the rollout. Test plans and related activities will be repeated for all phases. The Offeror will work closely with both the Fund and a Fund selected QA Offeror the review of deliverables related to UAT and its implementation.

18. Training Plan(s) and Training Materials

A detailed training plan for each rollout phase must be delivered, specifying who will be trained, what subjects will be covered, and a schedule for all training sessions. Included in the training plan must be training for Fund staff in the use of the Change Control Methodology and the Problem Incident Reporting Methodology. In addition, training materials must be developed and delivered to the Fund for review prior to the start of actual training activities. This deliverable must include, not only training in the use of screens and windows, pull-down menus, radio buttons, data entry, and the like, but also training in all of the functions, processes, and sub-processes that users will use need to accomplish their role-specific work duties. Training must address Fund users as well as employers; in addition, within the Fund, training must be aimed at two different cohorts – users involved in UAT and the general user population.

19. As-built Documentation

The Offeror must work with the Fund's staff to develop and deliver a complete set of systems and user documentation, which must be specific to and approved by the Fund. All documentation delivered must be of the 'as-built' version of the system. User documentation must address not only the use of screens and windows, pull-down menus, radio buttons, data entry, and the like, but also all of the functions, processes, and sub-processes that users will use to accomplish their role-specific work duties, i.e., the Work Process Manual and on-line help facility discussed in Section C.8.1.

Table C-3 below lists other deliverables that are neither related to the start of the project nor contingent on the start date of a functional rollout. These deliverables as well as all the others listed in this section must all appear in the Offeror's Detailed Project Work Plan.

Table C-3: Other Deliverables

Nbr	Deliverable
20	Source Code
21	Weekly Status Reports and Meetings

20. Source Code (At end of implementation)

The Offeror must deliver the line-of-business (LOB) application source code as customized to meet Fund-specific functional requirements upon the delivery of the system for use in each phase and no less frequently as every month thereafter.

21. Weekly Status Reports and Meetings (Throughout Project)

The Offeror must deliver weekly written project status reports and facilitate weekly status meetings throughout the life of the project.

The deliverables above are the minimum set required of the Offerors. Offerors are encouraged to identify additional project deliverables, as applicable, beyond the minimum set identified above.

Offerors are advised that the project deliverables discussed above are **not** necessarily related to payment points. Deliverables – termed herein "contractual deliverables" – that, upon their written acceptance by the Fund, will trigger Offeror payments have been established by the Fund – see Section D.1.5.

C.3 FUNCTIONAL REQUIREMENTS – INTRODUCTION

The following sections provide detailed information on the high-level functional requirements that MUST be satisfied by the new system. The Offeror is required to provide all the functionality described in this section. "High-level" is meant to inform Offeror that these requirements are intended to identify "what" functionality the new pension solution is to provide. The requirements are not intended to describe "how" that functionality is to be provided.

The functional requirements are divided in two areas:

- Core Business Functionality – that functionality that is specific to the administration of pensions
- Business Support Functionality – that functionality that is generally found in any service-centered organization.

These requirements are contained in an Excel Workbook, as Attachment G-3. This Excel Workbook contains tabs, each one corresponding to a functional requirement category.

The column headings in this workbook are:

1) **Requirement ID** – An internal indicator of the specific requirement.
2) **Category** – Functional area applicable to the requirement. These categories correspond to the section headings or contents in C.3.1and sections C.3.2
3) **Fund Business Unit** – Internal Fund Designation of requirement ownership
4) **Type** – Designation of requirement type (Controls, Inputs, Metrics, Outputs, Processes)
5) **Requirement** – A statement of the requirement (typically begins with "ability to")

The five columns identified above are provided by the Fund. The following three columns are for the use of the Offeror to indicate the method by which the proposed solution addresses the particular requirement. There are three possibilities as to the method by which the proposed solution addresses the particular requirement, and the Offeror should place an "X" in the column that represents the method by which the proposed solution addresses the requirement.

6) **Configuration** is defined as one of the following:
    - The functionality is completely realized "out-of-the-box."
    - The functionality is completely realized by the setting up of a table
    - The functionality is completely realized by the writing of a business rule
    - The functionality is completely realized by any combination of "out-of-the-box," setting up a table, or writing a business rule
7) **Customization**: If the functionality is realized by any other method other than "Configuration," it is considered customized.
8) **Not met**: If the proposed solution cannot realize the functionality contained in the requirement

Attachment G-3 should be filled out by the proposer and returned as Artifact P-1, Business Requirement Matrix.

Note that if, for any requirement, the Proposer does not indicate a Vendor Solution (by marking an "X" in the appropriate column, the Fund will assume that this requirement is "not met" by the solution.

If at the time of contract award, requirements gathering, or detailed design, an agreement is made between the Offeror and the Fund not to implement any current functionality, that agreement must be documented thoroughly and signed by both parties and reflected in updates to the Requirements Traceability Matrix (RTM).

Any and all functions inherent to manual calculations and standalone spreadsheets in the "as is" environment are to be automated and seamlessly integrated in the new system. In this context, integrated means the system does the calculation, and not that the spreadsheet is loaded with data and then manually executed by a user and the resulting data re-entered into the LOB system.

C.3.1 Desired "To Be" Core Business Functionality

Attachment G-3 contains the Core Business Functionality requirements which the proposed retirement system solution must provide.

Although the table-oriented approach described above for presentation of functional requirements is an appropriate method for succinct description of the requirements and for the Offeror's response, this approach does not provide the Fund with a "feel" for how the functionality is provided. Therefore, the Offeror must (in addition to completing the matrix), provide a narrative description of the functionality provided in each specified functional area below (Artifact P-2, Business Focused Pension Solution Overview).

Core Business Functionality is divided into the following categories:

C.3.1.1 Annual Statements

Requirements for extracting and manipulating the data required to produce statements for the Fund members. It also contains requirements related to the timing of production and distribution of the statements.

C.3.1.2 Beneficiary Maintenance

Requirements needed to capture, validate, and maintain beneficiary-related transactions. The category includes the requirements needed to capture, query, and display the variety of possible beneficiary types.

C.3.1.3 Benefit Estimates

Requirements for calculating and creating estimates using member data, performing "what-if" scenarios, and managing the wide spectrum of variables that factor into the estimating process.

C.3.1.4 Benefit Processing – Calculation

Requirements for receiving, calculating, and managing retirement claims.

C.3.1.5 Correspondence

Requirements that allow the Fund to automate and control the flow of correspondence. Requirements will allow for use of pre-defined templates and pre-filled forms; functions to manage the generation and distribution of correspondence—Web, e-mail, paper documents; and the management of correspondence within the organization—automatic triggering of workflows to process various types of correspondence and automatic archiving of all sent correspondence.

C.3.1.6 Death Processing

Requirements for receiving, processing, and managing death claims from members and beneficiaries. This category includes requirements related to survivor benefits. It includes establishing a separate account in the system for the beneficiaries upon death. It also ensures that future correspondence goes to the appropriate party.

C.3.1.7 Delegation of Authority

Requirements for handling legal documents such as a Delegation of Authority. It ensures that future correspondence goes to the appropriate party.

C.3.1.8 Disability

Requirements for determining eligibility, calculating, paying, suspending, and terminating disability claims.

C.3.1.9 Disability Case Management

Requirements for receiving, processing, and managing disability claims.

C.3.1.10 Employer Reporting

Requirements necessary to collect, maintain, validate, audit, edit/correct and post data reported by employer.

C.3.1.11 Enrollment

Requirements designed to determine the eligibility of a potential new member and manage the enrollment process in an automated fashion.

C.3.1.12 Funds Management

Requirements necessary to allow the Fund to manage its bank accounts including the receipt of cash payments.

C.3.1.13 Health Insurance

Requirements necessary to allow the Fund to work with the NYC Office of Labor Relations, who administers health benefits to the Fund's retirees.

C.3.1.14 Loans

Requirements necessary to allow the Fund to administer loans to its active membership. Offerors are advised that the Fund considers its administration of loans to be a complex process.

C.3.1.15 Member Education

Requirements necessary to enable a member to identify, register, and receive reminders about upcoming educational opportunities and counseling sessions. It also contains requirements needed to allow Fund staff to schedule, disseminate customized information about, produce materials for, and monitor registration for educational opportunities and counseling sessions.

C.3.1.16 Member/Pensioner Maintenance

Requirements necessary to maintain all the non-pension-specific data needed by the Fund to administer to its active members and retirees.

C.3.1.17 Payroll and Other Payments

Requirements to capture, generate, validate, and process benefit payments— benefit payroll. It includes requirements to reconcile benefit payrolls, perform gross to net calculations, maintain demographic information on financial institutions, and produce financial transactions associated with payments.

C.3.1.18 Purchase of Service

Requirements for receiving, processing and managing requests to purchase or transfer service credit. It includes requirements related to determining eligibility, as well as calculating the cost and establishing associated receivables for, a service credit purchase.

C.3.1.19 DRO and Court Orders

Requirements for handling DRO or other Court Orders. For DROs, it includes establishing a separate account in the system for the former spouse. It also ensures that future correspondence goes to the appropriate party.

C.3.1.20 Refunds - Terminations

Requirements for applying for, receiving, processing, and managing requests for contribution refunds. It also includes requirements related to the forms of payment that refunds can take and to the tax treatment of refunds.

C.3.1.21 Return to Work

Requirements for managing the processing needed when a retiree decides to return to work.

C.3.1.22 Tax Reporting

Requirements for capturing, processing and maintaining relevant tax-related data; using that data to create forms required by governmental authorities to report withholdings of taxes, as required by the Internal Revenue Code; and transmitting that data to the governmental authorities.

C.3.2 BUSINESS SUPPORT FUNCTIONALITY

Business Support Functionality refers to that functionality that is generally found in any service-centered organization – not specifically a pension plan administrator.

The detailed requirements for each of the sections below are also included in Attachment G-3. The instructions for completing the matrix, Artifact P-1, are discussed in Section C.3.

Business Support Functionality is divided into the following categories:

C.3.2.1 Activity Tracking

Requirements that provide the ability to track and summarize the various contacts made with members, retirees and other entities to be maintained in the new Line of Business solution. The intent of this required functionality is to ensure that the Fund's staff can easily access and review the history of communications and contacts with a member and retiree.

C.3.2.2 Audit and Security

Requirements that addresses the underlying audit (e.g. tracking of data updates, implementing a segregation of duties, flagging and identifying audited records) and security (e.g. passwords, encryption, screen level, field level) functions of the entire application.

C.3.2.3 Business Rules

Requirements regarding management of the business rules repository as well as how individual business rules will be handled. Management of the business rules repository includes requirements for linking to the source for the business rule, searching to find specific business rules, and reusing business rules, and metrics to determine how often a business rule is used. The management of individual business rules includes such topics as the development; testing to include impact analysis, approval, and maintenance of the business rules; version control; and the use of effective dates and sunset dates for individual business rules.

C.3.2.4 Call Center

Requirements necessary to enable the Fund's staff to enhance service to members, employers, and other stakeholders through the use of a broad range of tools typically found in a managed contact center environment. The requirements found in this category include provisions for tools and automation necessary to manage day-to-day service needs and information across multiple communication channels such as phone, e-mail, chat, and other media. This category also includes requirements for reports specific to this category area and not necessarily found in the broader category titles.

C.3.2.5 Content on Demand

Requirements regarding, the management, production, and distribution of informational content when requested by a Fund member.

C.3.2.6 Customer Relationship Management (CRM)

Requirements regarding the tools that should be available to the Fund's staff when dealing directly with a Fund member.

C.3.2.7 Electronic Forms

Requirements regarding the design, creation, maintenance, and processing of electronic forms.

C.3.2.8 General

Requirements that either do not fit well into any other category or would otherwise fit into many categories.

C.3.2.9 Imaging

Requirements regarding the creation of images, as well as the indexing, maintaining, and retrieving of those images. Contains requirements related to the integration of the imaging system with the Pension solution.

C.3.2.10 Knowledge Management

Requirements that provide the capability to establish and maintain a knowledge database that will enable the Fund to more quickly and accurately respond to member inquiries.

C.3.2.11 Portal Management

Requirements that address the establishment and maintenance of the content, look and feel, and functionality of the Fund's self-service web site.

C.3.2.12 Records Management

Requirements pertaining to the retention and destruction of Fund records.

C.3.2.13 Reports Management

Requirements that enable the archiving and manipulation of system generated reports.

C.3.2.14 Reporting and Querying

This category includes both general reporting requirements (e.g. add a watermark to all reports, ability to export to Excel, print, save, or view only, provide a parameter driven reporting tool) and requirements for certain standard reports/queries (e.g. member and employer reports by status, staff performance reports, quantity of reports to be written by Offeror). Statistical or management reporting differs from general reporting in that its reporting requirements are over time, providing a trend analysis capability.

These requirements are inclusive of reporting tools, management level reports, as well as related standards. The Fund expects Offerors to build the appropriate reports to support each business process. The Fund requires that the solution being proposed is a robust report writer that will allow new reports to be developed at any time. As part of the reporting requirements, metrics reports are very important to the Fund and their ability to measure processing times and improve customer service. The Fund wishes to build a dashboard of metrics to be used to monitor and communicate operational activities to decision-makers. In response to this section please include a brief narrative describing how Reports (and ad-hoc queries) are developed, maintained, and produced in the new solution. This should note the availability of ad-hoc querying tools and address how management reports are generated and developed.

C.3.2.15 Statistical Reporting

Requirements regarding the extraction, manipulation, and formatting of data within the system for the purpose of providing some of the reports necessary to administer the Fund's pension plans.

C.3.2.16 System Support

Requirements regarding the moving of data from one system environment to another.

C.3.2.17 Voice

Requirements related to incoming phone calls and the ability to provide transactional capabilities to the caller without the involvement of the Fund's staff. IVR requirements, as prescribed in Section C.13.5, are designated as an optional project area.

C.3.2.18 Workflow

Requirements that define the functionality to define a process, trigger the execution of that process, execute that process step-by-step, and gather metrics about that process.

C.3.3 Artifact P-2, Business-Focused Pension Solution Overview

In the Business-Focused Pension Solution Overview, Artifact P-2, Proposer must provide an overview of how their proposed solution:

- Addresses the Fund's business requirements documented in the Business Requirements Matrix, Artifact P-1
- Achieves the primary and additional objectives listed in section C.1 of this RFP, "Nature of the Desired Solution"
- Adheres (or doesn't adhere) to the best practices enumerated in section A.1.3 of this RFP, "Foundational Pension Administration System 'Best Practices'"
- Improves on the current Fund business practices as described in section B.3 of this RFP, Current Business Environment.
- Any other item that the Proposer believes should be brought to the Fund's attention that shows how the Fund will benefit from the proposed solution.

Artifact P-2 must not exceed 40 pages.

C.4 TECHNICAL REQUIREMENTS

The project's technical requirements are summarized below.

C.4.1 BROWSER-BASED SOLUTION

The Fund uses MS Internet Explorer 11 64-bit browser as their standard browser for internal employees, but because the Fund has no control over the browser platform that members and retirees select for use on their own computers, it is essential that the portion of the solution exposed to the Fund's external stakeholders (i.e., members, retirees, employers, etc.) via the web be able to support the current release, and at least the two immediately prior versions of each of the following: Microsoft Internet Explorer, Mozilla Firefox, Safari, and Google Chrome.

Offeror should confirm an understanding of this requirement and a commitment to meet this requirement (Artifact P-2, Business Focused Pension Solution Overview).

C.4.2 MOBILE BROWSER COMPATIBILITY

The Fund desires that the Member Web Portal be accessible on mobile Microsoft, Android, and Apple IOS browsers (not a specific App). End-users should have the ability to determine if they want to view the full-site or a mobile device view. The mobile device view may have limited functionality but allows secure login to view at least the following:

- Secure Correspondences
- Current Member Demographics
- Current Contribution Balance
- Current Service Credit
- Current Beneficiaries
- Statements of Account (both active and retiree payment)
- Current and past years 1099R information
- Benefit/career milestones (start, vested, eligible)
- Annual Statements / Statements on Demand
- Benefit Calculator

Within its response to this Section (Artifact P-2, Business Focused Pension Solution Overview), the Fund requires that the Offeror describe where in the development life cycle this functionality exists for your proposed solution (i.e. infancy, in development, being tested, or in production). If a mobile site or mobile application is in production or being tested by a client, please provide the clients as reference.

C.4.3 MULTIPLE ENVIRONMENTS

The Offeror must specify and deliver at least production, staging, development, test, training, and query environments that will reside within the Fund's current technical environment. The Offeror must explain its use of a physical, virtual or a hybrid environment setup. If physical, the Offeror must provide a solution environment that is physically separate from the other server components in the Fund's infrastructure and includes, at a minimum, three physical environments, Production, Staging and Development/Testing. The Offeror should provide recommendations for how the environments will be implemented (e.g., how many logical environments in how many physical environments) and explain why its recommended environment structure is preferred. This redundancy may be used to satisfy Disaster Recovery requirements.

Production Environment: The Offeror must provide specifications for an environment that is physically separate from the other server components in the Fund's infrastructure. Specifically, production server components must not reside on the same frame or physical virtual server in order to minimize outages due to upgrades or outages of systems/components that are not part of the production LOB solution. Although the Offeror must recommend all necessary components, the Fund reserves the right to consolidate certain functions within the existing the Fund's infrastructure if it is mutually decided that the Fund's components meet the Offeror's specifications. For example, if it is proposed that Web servers are required, and the Fund and the Offeror determine that adequate components exist in the Fund's infrastructure, they can be substituted.

Staging Environment: The Offeror must provide specifications for a second environment, staging, which must completely match the production environment and also be physically separate from all other server components in the Fund's infrastructure. This environment will be used for load testing of major releases of the LOB solution and for implementation of emergency production fixes (which will subsequently be migrated into the production LOB solution and then merged with the other environments). One aspect of the staging environment that does not have to match the production environment is the currency of the data. The databases must be sized and otherwise the same as those in production, the Fund must have the ability to refresh the staging data (including ECM data) with production or other data as necessary.

Training Environment: The Offeror must provide specifications for an environment that will be used to train all users of the LOB solution (e.g., internal business staff, employers, external business partners); this must also be a multi-tiered environment to facilitate the training of our external business partners. This environment must contain all components of the production LOB solution. The Fund requires the flexibility to manage the migration of all approved production modifications to the LOB solution into the training environment. For example, routine updates to the LOB solution can be migrated to both the training and production environments concurrently, while major releases or modifications to the LOB solution may be migrated to the training environment prior to production migration in order to provide the opportunity for appropriate training of business staff and external partners. Additionally, the business staff must be able to easily refresh/reset data for new training sessions.

Test Environment: The Offeror must provide specifications for an environment that will be used by business staff to test LOB solution changes/implementations, upgrades to system software or hardware and any/all system or application configuration changes. This environment will be used for User Acceptance Testing. Additionally, the business staff must be able to refresh/reset data for User Testing

purposes. The test environment must provide for importation of a full data set (e.g., all demographic data, transactions) and be able to do so a number of times (as required) during the testing process. Further, the utility provided that accomplishes this must remain available to the Fund's staff after implementation of the new system. This test environment will also be used to evaluate wage and contribution reports submitted by employers as they adopt the new wage and contribution reporting format.

Development Environment: The Offeror must provide specifications for an environment that will be used by IT staff to test LOB solution changes/implementations, upgrades to system software or hardware and any/all system or application configuration changes. This will also serve as the initial integration testing environment for application changes, database changes, configuration changes, and any other changes that may affect the LOB solution including software upgrades of any system software. Additionally, the IT staff must be able to refresh/reset data for development testing purposes.

Ad Hoc Query Requirements: The Offeror must provide an approach and details regarding ad hoc query capabilities for business staff as defined in C.3.2.14– Reporting and Querying. This ad hoc query capability must be built into the LOB solution and allow business staff to query live (or replicated) production data for reports and/or information without impacting the performance of any LOB solution real-time transactions or unattended process, and to import that data into Excel for additional analysis.

The Offeror's response (Artifact P-3, Technical Solution Overview) must describe in detail how these requirements will be met, including adequate hardware (including but not limited to processors, memory, and disk) and configuration and version management tools.

The Offeror must provide a methodology and tools for maintaining the multiple environments (including backup and recovery as well as data refresh and migration capabilities) on an ongoing basis once the project is completed. All environments should be sized according to the usage information as described in C.4.9.1- System Sizing and Performance Requirements. The Offeror must also propose and provide appropriate documentation, end-user training, and operations procedures to enable the Fund to effectively and efficiently maintain and utilize all environments.

As noted above, our primary data center is located at the Telehouse in Staten Island and our stand-by data center in at our headquarters. The solution must have physical and/or virtual servers installed at both sites and both sites must be capable of supporting 100 percent of the number of users. Furthermore, the database(s) in the query environment must consist of one hundred percent (100%) of the actual data in the existing production database. These databases are to be produced by a database copy, save and restore utility or other utility or tool.

Further, the utility must remain available to the Fund's staff after implementation of the new system. In addition to supporting the testing of the new system upon its implementation, the objective of the utility and test database is to provide staff with the ability to test system enhancements and modifications (possibly several years) after cutover.

C.4.4 Technical Architecture

The Offeror should respond with a high level Architecture for the LOB solution supported with diagrams depicting the interactions among the various system components. The purpose of these diagrams is to ensure that the Fund understands the essential design of the proposed solution, and can determine that the design is generally consistent with the budget, scope, and capabilities represented in this RFP. Diagrams

should include architectural views that reflect the application architecture, information architecture and related data models, and corresponding software and hardware architectures.

The Fund's objective with respect to multi-task, typically unattended processing is that all processes described in the RFP and the proposal must be able to be run concurrently while the system continues to meet response time and elapsed job processing requirements. Specifically, the Fund requires that response time requirements (including self-service) must be met independent of how many users are online, how many Web-based users are online and independent of what processes or scripts are being run, such as wage and contribution edits, wage and contribution posting, interest posting, payroll running, etc.

Offeror should address at least the following architectural topics in their proposals (Artifact P-3, Technical Solution Overview):

- **Application architecture -** including a discussion of the particular industry standards that are incorporated in the application architecture
- **Information and data architecture -** including a presentation of the Offeror's data model and a discussion of how the Offeror will reconcile its data model with the Fund's current data
- **Integration architecture -** particularly with respect to the modularity of the application and the ease of implementing future advances in enabling technologies, e.g., ECM, Business Rules Engines, as well as the use of specific named protocols, e.g., SOAP, HTTP
- **Systems management architecture -** with respect to the framework for efficient and effective management of the Fund's information processing environment, supporting and enhancing the productivity of its automated business systems
- **Directory services and security architecture -** particularly compliance with Secure Sockets Layer (SSL), Lightweight Directory Access Protocol (LDAP), Multipurpose Internet Mail Extensions (MIME), and industry-accepted standards for applicable uses of cryptography such as Advanced Encryption Standard, Data Encryption Standard or Triple DES. In this context, the solution must support the use of unique member IDs that are cross-referenced to encrypted social security numbers.
- **Platform architecture -** including a discussion of the availability enabled through the required two physical environments – see C.4.3 **Error! Reference source not found.**
- **Network architecture -** discussing how the proposed solution will operate within the current Fund network architecture, network software and network management software as described in Section B.2– Current Client Environment
- **Accessibility architecture -** including a discussion of compliance with accessibility standards identified on the following websites:

  http://www.section508.gov/ general

  http://www.w3.org/TR/WAI-WEBCONTENT

C.4.5 STANDARDS

The sections that follow provide the Offeror with an overview of the standards that must be applied in their provision of a new pension administration system.

C.4.5.1 User Interface Standards

The Offeror should provide a discussion (Artifact P-2, Business Focused Pension Solution Overview) of how its solution meets the following guidelines:

- The system interface is to be a browser-based (zero footprint for all users outside of the Fund's firewall) client
- The system is to be fully integrated and all subsystems are to be seamlessly interfaced (e.g., no re-keying of a member identifier required when retrieving an imaged member record)
- The application shall have an intuitive look and feel and allow for easy navigation
- Screens should be presented in a way that limits the need to scroll. In cases where scrolling **is** necessary, page headers must remain intact (member, employer, or other record identification information) as well as identifying column or section headers on transaction grids. Each instance of horizontal scrolling must be explicitly noted in the design documents, the reason for it explained, and its use signed off on by the Fund's Project Manager.
- The application shall have a consistent style such that users encountering an operation for the first time should feel that the screen is 'familiar" with common options and capabilities available in the same geographic location on the screen. Specifically the system must demonstrate:
  - Learnability (e.g., intuitive navigation) for all users; solutions which allow flexible, long-term, cost-effective customization of screens to promote the use of familiar, internal Fund "language" as opposed to solutions which "force" users to learn a new "language"
  - Efficiency of use (e.g., speed of navigation through the system, minimal "drill down" to get to the information that is needed, appropriate density of information on a screen to reduce number of screens to navigate, etc.)
  - Memorability, especially for casual users

  Since usability of the product is essential for the LOB solution, Offerors should respond how their application's user interface will have an impact on the Fund in the long-term (Artifact P-2, Business Focused Pension Solution Overview). Offerors should describe how it will affect, at a minimum, operating costs, staff training time estimates, and productivity. Actual metrics/statistics from previous projects may be provided. (The Offeror must describe in their response just how they meet the above requirements. The description should include reference to any standards incorporated in the user interface design and/or testing such as the International Organization for Standardization's Guidance on Usability (ISO 9241-11).)
- All functionality exposed to members / retirees through the Fund's website shall have a consistent look and feel and shall conform to the Fund's style standards and branding.

- For any sub-system application utilities (e.g., image scanning) that are client / server based, the application must be able to be minimized. When minimizing the application, all subordinate or "children" windows / panels of the LOB must also be minimized. If a user is performing specific work process, the user should be able to minimize this work, and all related windows / panels for that work should be minimized together – and maximized together at the appropriate time
- Interfaces must be ADA compliant.

Examples / samples demonstrating adherence to these standards are to be included in the Offeror's proposal (as an Appendix to Artifact P-2, Business Focused Pension Solution Overview).

C.4.5.2 Data Exchange Standards

The solution must comply with the National Automated Clearing House Association (NACHA) requirements for transactions that are performed electronically (EFTs, ACHs and others).

C.4.5.3 Name and Address

One of the goals of the project is to move to an environment which should allow for various presentation modes with regard to how data is extracted and formatted. (It is important to note that this is a discussion of variety in presentation, not storage. The Offeror is encouraged to use a single format for storage of all names and addresses, measurements, currency amounts, dates, etc.)

The application should not force a single "name" structure or "address" structure. The application must allow for varying structures <u>based upon the business and user need</u> for that information and the type of correspondence to be generated. As an example, if the Fund elects to generate the following with a different name or address structure, the system should not limit this decision:

Table C-4: Varying Name and Address Structures to be Accommodated

Item	Name / Address Structure	Example
Refund Check	FirstName LastName Address 1 City, State, Zip 5	JOHN DOE 111 STATE ST. ATLANTA, GA 87111
Pension Check	LastName, FirstName Address 1 City, State, Zip 5	Doe, John 111 State St. Atlanta, GA 87111
Estimate Letter	Title FirstName LastName Address 1 City, State Zip 5 + 4 Dear <first name>	Mr. John Doe 111 State St. Atlanta, GA 87111-2222 Dear John,
Retirement Form	Information (to be extracted as entered)	john doe 111 state street atlanta, ga 87111

Item	Name / Address Structure	Example
Internal Reports	One Line only – report format	Doe, John Edwards, Steve Erickson, Sally

The application should also support the use of 11-digit ZIP codes required for NCOA, CASS, and DPV list certification.

C.4.5.4 Workflow Sub-System

The Offeror should provide a discussion (Artifact P-3, Technical Solution Overview) of how its workflow sub-system conforms to the interface specifications of the Workflow Management Coalition (WfMC) and uses Business Process Execution Language (BPEL) to describe the orchestration of services within the business processes.

An example or sample demonstrating adherence to these standards is to be included in the Offeror's proposal (As an Appendix to Artifact P-3, Technical Solution Overview).

C.4.5.5 Executing Business Processes Regardless of Source of Work

Although the Fund requires the Line of Business processes to be workflow-enabled, the ability to access these processes / functionalities outside of the workflow system must also exist. The Fund's users should have access to this information and these processes not only when the work is initiated from "within" the workflow sub-system (such as through the receipt of a document, e.g., Change of Beneficiary Form), but also on a non-workflow (i.e., ad hoc) basis. The system must be sufficiently flexible to ensure that users can perform their work regardless of the technical state of the workflow sub-system, i.e., such work must be able to be initiated via receipt of a document, a phone message or other event that initiates workflow processes. The work must also be accessible on an ad hoc basis (i.e., not requiring that the user submit a document in order to have it enter a queue from which the user then draws the document in order to execute the work process). At all times the appropriate workflow system must be maintained so that system metrics, status, etc., are updated to reflect work completed. The workflow system should appropriately manage potentially conflicting tasks, e.g., processing a change of beneficiary form after receipt of notice of death.

C.4.5.6 Parameterization

Throughout the requirements that are discussed in this RFP, reference is made to various, user-administered, date-sensitive, system-wide, parametrically set numerical values and rules. A system administrator (not an IT staff member) must be able to perform their maintenance. Maintaining parameters must require no program or code changes. No such data is to be hard coded in the system.

The Offeror must provide a detailed discussion as to how they will meet the parameterization requirement – related to data elements, values, and business rules. Further, a list of those data elements, values, and

business rules which are supported by the above must be provided along with a list of those data elements, values, and business rules which are NOT supported by the above.

C.4.6 HARDWARE

C.4.6.1 Hardware (Introduction)

The Offeror is to provide all of the hardware components that will be required to support the proposed solution, including an appropriately sized, fully redundant development, test, training, QA, and query environment for use during the phased implementation. The Offeror will be responsible for acquiring, testing, installing and configuring the required hardware in the Fund's data center. Rack space will be provided at both our stand-by headquarter data center and at the Telehouse co-location primary data center. The Offeror's recommended hardware configuration must support all RFP requirements and be capable of expansion to support future functionality as described in this RFP. The recommended configuration must include the appropriate number of servers, hubs, routers, workstations (desktop PCs), storage, and all other necessary hardware.

The Fund's current processing infrastructure includes workstations (desktop PCs) and associated equipment, some of which may be suitable to support proposed solutions. In addition, there may be other components listed in the description of the Funds current hardware environment that are re-usable in the Offeror's proposed solution. To the extent that such components exist, the Offeror is encouraged to propose their re-use. However, any such re-use proposal must recognize that the components are currently in use and provide a clear description of how the Offeror proposes to migrate the Fund from the hardware's current use to its proposed re-use – with no significant impact on current operations.

In their response, Offerors are cautioned to include all ancillary equipment required by the proposed solution such as cabling, connectors, equipment racks, and backup devices.

C.4.6.2 Servers

The Offeror is to provide detailed information on all servers required to affect the proposed solution, including number of servers, processor configurations and speeds. Include number of processors, memory and disk cache for each server. Vendors are cautioned to address all necessary routers, hubs, and other miscellaneous hardware requirements relating to servers

It is the Offeror's responsibility in the proposal (Narrative in Artifact P-3, Technical Solution Overview and list in Artifact P-4, Proposed Hardware list) to recommend an appropriately sized platform to accommodate up to 200 concurrent sessions of Fund staff users (whether internal or external [i.e., working from home or another remote location]), 1 active Wage and Contribution transmissions occurring (i.e., 1 employer wage and contribution reports simultaneously submitted), and 40,000 (50% of active and retired members) concurrent external users accessing the system through the Web – all the while still meeting the response requirements described in Section C.4.9.1. The proposed configuration should support a strategy to dynamically manage traffic across servers to obtain appropriate load balancing.

As noted, web applications that will be available to reporting units, active members, or retirees must be sized to accommodate 20,000 concurrent sessions initially (as indicated in the preceding paragraph) and rising to an estimated 40,000 concurrent sessions within five years of the system's rollout. The Offeror will layout sizing options based on increased volumes during first year of self-service activity and member registrations. The Offeror is reminded that, in developing its server specifications, the proposed

solution must include an appropriately sized, fully redundant development, test, training, QA, and query environment for use during the phased implementation (See Section C.4.3).

C.4.6.3 Personal Computing Devices and Other Interactive Devices

The Offeror is to provide minimum detailed information on all personal computing devices (e.g., desktop PCs, laptops, PDAs, etc.) required to support the proposed solution. Include processor speeds, memory and disk cache configuration. For each device, the Offeror should indicate whether the requirement can be satisfied by existing Fund equipment as is, or if existing Fund equipment will need to be upgraded (include all upgrade information) or replaced. Please see below for quantities and specifications of the configuration of the Fund's existing desktops.

The Fund believes that its current desktop PCs are adequate to support the new system. Vendors are expected to review the current Fund's technical environment (see below) to confirm this belief or to recommend changes and upgrades as necessary.

(193 at HQ and 60 at Telehouse) Dell OptiPlex 9020 Mini Tower – Base model

- Intel i7 Processor Quad Core 3.60Ghz, HD4600 Graphics
- 16 GB DDR3 Memory
- 256 GB Solid State Drive
- 24" Flat Screen Monitor
- nVidia GeForce GTX 745 4GB DDR3, DVI (dual monitor), 1 HDMI
- DVD
- Dell KM714 Wireless Keyboard and Mouse
- 1 GB Network Card
- Soundbar
- (4) USB 3.0 ports
- (6) USB 2.0 ports
- Windows 10 64-bit Operating System
- 290 Watt Power Supply
- 5 Years onsite hardware support

C.4.6.4 Storage

The Offeror must specify the storage configurations that will support the proposed solution. A minimum of RAID 5 must be proposed. The Fund requires use of magnetic storage for the images in the ECM system as well as any COLD documents stored in the electronic document archive.

As noted, the Fund currently has an archive of 10 million images that is sized for 3 TB of magnetic disk storage.

In addition, the Fund's retrieval requirements require that retrieval of electronic document-based member information should be available via a single (application-initiated) query. Thus, a Fund staff member will, with minimal input, be presented with a list of all document-based member data.

C.4.6.5 Power Conditioning – UPS and Surge Protection

The Fund's production computer room in Staten Island has both UPS and stand-by generators. The Fund's headquarters location has just UPS protection. All desktop computers and printers are protected by individual desktop UPS devices.

C.4.6.6 Printers and Peripheral Equipment

The Offeror's hardware specifications must provide sufficient printing capability to support the printing of all reports generated by the system as well as other in-house, system-generated printing needs such as member correspondence. Those specifications should take advantage of the current inventory of the Fund's printers and specify only those additional printers that are deemed necessary. To assist the Offeror in that determination, the Fund has provided **Table** B-2 of approximate system-generated print volumes which must be supported by the existing Fund printers until the new LOB solution is put into service. The Offeror's proposal (Narrative in Artifact P-3, Technical Solution Overview and list in Artifact P-4, Proposed Hardware list) must specify how their proposed solution will meet these requirements.

For an inventory of existing printers see below:

Make	Model
Lexmark	T654dn B&W
Lexmark	C736dn Color
Xerox	WorkCentre 5890/5890/5875/C75/ D125
Kodak	i4600 Plus

C.4.6.7 Image Scanners

The Fund's specific scanning requirements are:

Volume: Current average of 309 documents per day

Density: 300 dpi

Compression: PDF

Duplex: ~10%

Colored Originals: scan in bi-tonal (except photographs in medical disability records – significantly less than 1% of scan volume)

Image Enhancement: The Fund's preference is for hardware-assisted de-skew and de-speckle image enhancement capability. Virtual ReScan (VRS) capability, while not required, would be viewed as a plus.

Projected Growth: approximately 5% per annum

The Fund requires that images be scanned at 300 dpi as the default to accommodate possible future use of forms recognition and OCR/ICR. In addition, the scanners must be capable of reading and recognizing any bar-codes used in the automated recognition of modified forms and documents. Finally, all scanners must be TWAIN and/or ISIS compliant.

The Fund scans and indexes on the same LAN segment.

Some medical records such as MRI and CAT-scan electronic files are received by the Fund. Include any recommendations for importing of this data into PDF documents and stored in our image management system.

C.4.6.8 Offeror's Response

Any narrative related to the hardware being proposed should be included in Artifact P-3, Technical Solution Overview. Offeror should provide a detailed list of all the hardware necessary to support the proposed pension solution as Artifact P-4, Proposed Hardware List.

C.4.7 SOFTWARE

C.4.7.1 Overall Software Requirements

The Offeror's proposed solution must include NO software or hardware locks, traps, dongle keys, or similar security measures that would in any way deny the Fund full and complete access.

The source code for any software (be it the customized line-of-business application, middleware, a code generator, a specialized I/O routine, or any similar or related item) which is developed by the contractor, or an affiliate company that is 20% or more owned by the contractor, and used in the new system must be delivered to the Fund. The Offeror must agree to deliver application source code with the delivery of each functional rollout phase during the project. The Fund's acceptance of a phase will be contingent upon this requirement being met. In addition, once the first functional rollout phase has been delivered, source code updates must be delivered no less frequently than quarterly. Source code for linkages to/from the system (which may be developed by a 'sub-contractor) is similarly to be provided. It is to be updated and delivered to the Fund throughout the duration of the project.

In addition, the source code for any third party software that is delivered and/or licensed to the Fund as part of the new solution must be escrowed on the Fund's behalf if, at the time of final turnover and acceptance of the new system to the Fund, that software product has ever previously been escrowed for the benefit of any other client of the third party provider.

The Fund is agreeable to LOB source code being provided under a non-exclusive license, including appropriate intellectual property protections for the Offeror; however the Fund does require the source code. The Offeror must indicate in their response their acceptance of the requirements in this section.

C.4.7.2 LOB Application Software

The line-of-business (LOB) application must be described (Artifact P-3, Technical Solution Overview) with respect to the following attributes:

- Language
- RDBMS
- Transaction sub-executive (if any)
- Development and deployment environment
- Screen generator
- Report generator
- Middleware
- Any third party tools.

In addition to the above, for each application component proposed, the Offeror must answer the following questions (Artifact P-3, Technical Solution Overview):

- Does the application make use of any "middleware", i.e., any proprietary, internally developed layer to permit access to and use of interchangeable relational databases? If so, what is it and is it commercially available?
- What user interface(s) is utilized?
- What application development tools are used? Do tools define the applications? Are tools used for engineering, developing, and/or maintaining the applications?
- What source languages are utilized for the application? If multiple ones are used, describe each and what percent of the entire system is each written in?
- Confirm that ALL application source code (including but not limited to any middleware, workflow software, or imaging software) will be delivered to the Fund
- What SQL, data base management system is used? Was the system originally designed with this data base management system or was it retrofitted or back fitted to it?
- What operating system is used on the servers? Clients?
- Confirm that the solution will support Internet Explorer, FireFox Mozilla, and Netscape browsers, including at least the current version and the immediately preceding version of both products
- Provide a brief history of the application. The narrative should include all major events from the original version to present, including events such as original environment, any re-engineering (and why), introduction of an RDBMS, support for a browser-based interface, etc.
- Confirm that all modifications of data on the database shall be date/time stamped along with an identifier of what logical user-id performed the modification or initiated the unattended process that actually modified the database
- Clearly describe the system architecture.

Offerors are required to include as attachments to their proposals the following:

- A comprehensive list of all documentation (including but not limited to user, system, and operational) delivered with their systems. Include samples (which will be returned if so requested) of all documentation products for evaluation (as an appendix to Artifact I-7, Draft Project Management Plan)
- Screen "snapshots", windows, and screens from the system they have implemented that was most similar to the one being sought by the Fund (as an appendix to Artifact P-2, Business-Focused Pension Solution Overview)
- A list all standard reports supplied with the system being proposed (Artifact I-8, List of Standard Project Reports), classified as management, operational, or financial. Appropriate samples must be included in the Offeror's proposal (as an appendix to Artifact I-8, List of Standard Project Reports). Of particular interest is a sample of the member's annual statement produced by the proposed system.

The Offeror will provide all upgrades and patches to application software over the course of the contract. In addition, the Fund's technical staff will be trained in the application and installation of such patches and upgrades. Documentation and manual updates, as well as letters of transmittal, will always accompany such patches and upgrades.

C.4.7.3 Offshore Packages

Given the span and scope of the project, the Fund anticipates that Offerors may propose a solution that include one or more off-the-shelf packaged software products that will be integrated with the LOB functionality, thereby presenting a "seamless" interface to the system user. However, the Fund has a concern about the proposal of packages developed "offshore" – where offshore is defined as anywhere not within the USA.

The potential problem is not foreign authorship *per se*, but rather the suitability of the package's functionality for use in the U.S., the quality and suitability of documentation and training materials, the availability of software support in the U.S., and the availability of certified training services for U.S. customers, as well as familiarization with applicable federal statues, Internal Revenue Code, and U.S. practices.

In light of these concerns, Offerors should note that the Fund will initially look most favorably on solutions that do not include software packages developed offshore. However, if the Offeror feels strongly that a foreign-authored product offers significant functional and/or economic advantages, the Fund will consider and fairly evaluate a solution that includes that product provided that the Offeror's proposal (as an Appendix to Artifact I-7, Draft Project Management Plan) discusses the package's advantages in detail and provides the following detailed information:

- Confirmation that the product and all related literature (such as user manuals, training materials, system documentation) are available in English
- Confirmation that all documentation and training materials match the version or release of the software to be installed
- Indication of when the product was first installed at a U.S. site
- Identification of the number of software support personnel in residence in the U.S. and what guarantees are available in terms of response time and time-to-fix should problems develop with the package
- Identification of the number of certified training personnel resident in the U.S.
- At least five (5) U.S. reference accounts that can be contacted in order to validate the suitability of the product and the customer's level of satisfaction with both the product and the services provided (installation, training, software support, etc.)

During proposal evaluation, should any of the references contacted express dissatisfaction with the foreign-authored package being proposed, the Offeror will be notified that the proposed package is unacceptable. The Offeror will be given one opportunity to replace the package and resubmit its proposal.

Should the Fund award a contract to an Offeror who included a foreign-authored package in its proposed solution, and problems arise during the project in connection with that package in any of the areas cited above, the Offeror will be responsible for replacing the proposed package with one acceptable to the Fund (as determined solely by the Fund), with no change in the project's cost or schedule. In other words, it is the Fund's intention that any Offeror who proposes to include a foreign-authored product in the solution shall bear all of the risk inherent to the selection of the offshore-developed package, and, if necessary the costs to replace that product.

C.4.7.4 Commodity Software Introduction

The solution must adhere to the Fund's preferred server environments, including the following:

- Windows Server 2012 (supported in-house)
- Windows Server 2012 Hyper-V Virtual Servers (supported in-house)
- Linux (Vendor supported)
- UNIX (Vendor supported)

Offerors may propose a different operating environment but will have to demonstrate its interoperability with the Fund's preferred environment.

As noted in the standards, the Fund has no bias for or against Java, .Net, SOA or any other development platform or language. However, the Fund is biased towards a solution that provides a good business fit and can be demonstrated to be a mainstream architecture. With that in mind, the solution must make effective use of reusable components in order to improve flexibility, scalability and extensibility into applications.

The Offeror is required to provide all of the necessary "commodity" software (such as operating systems, database management software, office suite, Enterprise Content Management (ECM) software, and tools) – both new and upgrades – that will be required to support the proposed solution. The Offeror will be responsible for installing, configuring, and testing the required software on the hardware already installed by the Offeror at the Fund-specified location.

The software products specified must support all RFP requirements. They must be capable of being upgraded to support future functionality as described in this RFP. The Offeror must propose the appropriate number of copies of / licenses for each software product required to implement the proposed solution and indicate the type of license, e.g., corporate, perpetual.

Should the commodity software proposed by the Offeror (or the version specified or the number of copies / licenses indicated) prove inadequate to support the new solution – in terms of functionality, performance, availability, or scalability – it will be the Offeror's responsibility to acquire such additional software as may be necessary to bring the solution into compliance with RFP requirements <u>at no additional cost to the Fund</u>. In such a situation, the Offeror will also be responsible for installing and configuring the additional software. Any project delays that result from the need for the Offeror to expand / replace commodity software will be the responsibility of the Offeror. No change orders will be approved by the Fund relating to such a situation.

The Fund's current processing infrastructure includes numerous commodity software products, some of which are likely to be suitable to support proposed solutions. The Offeror is expected to include existing

Fund commodity software products; to the degree they are suited to support the proposed solution. The Fund expects that some of the existing software is acceptable in the new solution, some must be upgraded, and some must be replaced and/or augmented with additional components. In its proposal, the Offeror is required to clearly delineate existing commodity software products at the Fund that are usable as is vs. existing software that must be upgraded vs. new commodity software products that are required to support the proposed solution.

C.4.7.4.1 Operating System

Operating system level software to be included in the new solution must be consistent with the platform architecture discussion and described by the Offeror in the proposal (Artifact G-1, Technical Solution Overview), including version / release information and the Offeror's rationale for selecting each proposed product.

Each platform's operating system must be a stable, proven operating system. While it is not mandatory that all platforms use the same operating system, seamless interfaces between each must be provided. Further, the number of different operating systems to be maintained and supported by the Fund will be a significant factor in evaluating the proposals, with fewer (preferably one) operating system(s) much preferred.

C.4.7.4.2 Network Software

Proposed Network Software must be consistent with the Network Architecture discussion in Artifact G-1, Technical Solution Overview. Offerors must propose the most current and appropriate version of the following network system software or equivalent alternate software or greater functionality:

- Network operating system to support the Fund's end users, including remote dial in access users, plus Offeror development personnel
- Network analysis and performance evaluation and monitoring software
- Full-time on-line virus protection software for all servers and clients, along with a three-year update subscription
- Other software as proposed, discussed, and specified by the Offeror, including but not limited to test script generators and drivers
- Hub or Ethernet Switch software.

C.4.7.4.3 Network Management Software

The Offeror must propose a network management package that supports all proposed platforms and PCs. The proposed package must have the capability to manage the network (given appropriate security) from any single workstation (including secure remote access via a browser-based interface – if appropriate). The following are required capabilities:

- On-site (multiple workstations) access, including laptop access when required
- Logging of statistics, error conditions
- Ability to manage intelligent network devices from one central location

- Logical, graphical representation of network
- Physical, graphical representation of network
- Ability to monitor individual components of network
- History tracking and real-time depiction of network
- Alarms that notify the network administrator of conditions requiring corrective action
- Both Windows compatible-GUI and Browser compatible
- Ability to monitor traffic associated with different software applications.

System performance criteria must be met while the network management software is operational.

In their proposals (Artifact P-5, Proposed Software List), Offerors must discuss their proposed network management software, describing its functionality and the rationale for its selection.

C.4.7.4.4 Relational Database Management Software

The proposed solution must employ a relational database management system (RDBMS) within its data storage architecture. One of the following must be supported:

- Oracle Database (Preferred)
- Microsoft SQL Server

Database management capabilities must be included in the Offeror's proposal (Artifact P-3, Technical Solution Overview). The Offeror's solution must be based on current, proven database technology and be able to store all data elements using logical views to provide varying associations of data elements. Database management capabilities must include comprehensive data dictionaries (delivered by the Offeror on a phase-by-phase basis) and data models that can be used as reference by end-users as well as programmer/analysts. Also required is the ability to cross-reference fields and files, sorted and/or indexed by a variety of keys as well as all tables (rows and columns). Version and release must be specified.

Offerors shall provide in their proposals (as an appendix to Artifact P-3, Technical Solution Overview) the data structure / logical data model utilized in the solution being proposed. Further, they must discuss what features are available in both their particular design and their selected database management system to avoid redundant data. The degree of redundant data must be discussed.

The data schema diagram must be provided in the Offeror's proposal (as an appendix to Artifact P-3, Technical Solution Overview) for review and evaluation by the Fund's technical staff.

The Offeror will provide both a data dictionary (including table descriptions, field or column definitions and types, defined keys, and value domains) and a schema definition for use by the Fund in using the ad hoc query and reporting capability.

C.4.7.5 System Software Tools

System tools to be included in the proposed solution must include, but not be limited to:

(1) Performance measurement / capacity planning tools – on several discrete levels:

- The Offeror must include tools that will record on-going performance information <u>without significant impact on system performance</u>. System response time must be maintained while such tools are in use. These tools must also include reporting capabilities to show trends of all significant system resources over time, reflecting history by date and by time of day, as well as the capability to make projections based on cumulative history
- The Offeror must also provide real-time performance analysis tools, which can be used to trouble-shoot performance problems as they occur. System response time must be maintained while such tools are in use.

(2) Operations support tools – the Offeror must include a variety of tools that will assist and enhance computer operations, including (at a minimum):

- Job scheduler - capable of automatically initiating jobs based on time of day, day of week, or calendar date and/or the successful completion of "predecessor" events
- Comprehensive backup and restore functions at the system, volume, directory / catalog (and subdirectory / sub-catalog), and discrete file levels for all media on all platforms
- Anti-virus protection – for all platforms, including user workstations. The protection must detect, warn, and under system administrator direction, eliminate viruses
- Patch management – for all platforms, including user workstations. The patching of workstations is essential from a security perspective for those applications that apply to the Fund. The delivery of patching process should be automated (“hands off”), but be under network administrator direction
- Export/import capabilities that support straightforward transfer of files (and extracts of files) among the various hardware components, i.e., XML or comma delimited ASCII files
- Report generator or conversion tools capable of automatically converting reports to PDF format.

(3) Intruder logging and alert software for all platforms must be provided. The software must log all connections to any platform, including identification of user, point of connection, time and duration of session. The Fund must be able to direct the software to monitor and record all activity that occurred during a session, based on user identification code or point of connection. In addition, the software must alert operations whenever attempted and "failed" log-ins exceed a user-defined threshold. System response time must be maintained while such tools are in use. For additional information in this regard, please refer to Section C.4.9.8 which discusses network vulnerability assessments.

C.4.7.5.1 Development Tools

The Offeror must include a full suite of development and maintenance tools that will enhance the Fund’s programmer productivity in terms of maintaining and updating Offeror-supplied applications and in developing new applications. The Offeror must describe its proposed solution for each tool and platform. These tools must at a minimum include all tools used by the Offeror in the development, enhancement, and maintenance of its software, including any:

- Test script / test case generator
- Test drivers
- Middleware
- Software configuration management software
- Version control software
- Problem incident reporting, tracking, and management tools
- Data or process modeling software
- "HELP" generation software
- Windows and/or browser application development software tools
- All compilers for software development (and associated tools)
- All memory and allocation analysis software used in system development.
- A tool or tools that provide the ability to selectively purge (and save) to tape or other appropriate media database records that meet data-driven selection parameters. A corresponding restore capability is also required. The integrity of the data and the database must be automatically maintained during both processes.

C.4.7.5.2 Programmer and User Productivity Tools

The following productivity tools must be included in the proposed solution:

- Mature program development and maintenance tools
- Media (including but not limited to magnetic disk) space management tools that present graphical information as to current use of storage media as well as notifying technical services when certain device and system-wide thresholds are exceeded
- Tools necessary to "reorganize" files (based on the file system technology)
- The Ad Hoc Query tool

All of the above are to be installed and operational, customized to the Fund's configuration and tested by the Offeror, as well as by the Fund's technical and user staff, and accepted by them at the time of the initial installation of the hardware and software. At that time the Offeror will provide informal and formal training on their use so that Fund staff has the opportunity to work and become familiar with the tools long before the rollout of the first implementation phase of the solution.

C.4.7.5.3 Software Distribution Agents

The Fund currently uses Windows Software Update Service WSUS for patch management and System Management Software (SMS) for inventory asset management and client upgrades. The Fund realizes that maintaining software and consistent software configurations across desktop PCs and laptops is a challenging task. As such, even though the actual LOB application will be browser-based, the Fund requires that the Offeror propose and use a software distribution agent that will build and deploy new

configurations of software (e.g., OS, Internet browser, and non-Microsoft applications) on client PCs – thus avoiding having to physically go to each client PC, load software, and configure it. The Offeror must identify the tool to be used and describe past experience with the distribution agent. The specified tool must meet or exceed the capabilities of the current toolset – the Fund notes that the specified tool may be met by specification of reuse of SMS. Specific references as to where the specified tool has been used successfully must be provided. Any limitations in the build and deploy capabilities must be identified.

C.4.7.6 Security and Controls

Note that in addition to the platform security and control requirements outlined below, the Offeror must also comply with the functional audit and control requirements.

Within the eventual solution, the Fund must implement security and directory services in such a manner that its information/data infrastructure is protected and accessible while, at the same time, its functionality is unimpeded and its business services are readily available. The proposed solution must permit use of a comprehensive system that provides public-key encryption and digital signature services also known as a public-key infrastructure (PKI). Encryption pertains as follows:

- Any member data transmitted over unsecured connections must be encrypted
- Any security tables, the breaching of which would endanger the integrity of the system, must be encrypted
- Any passwords stored under the control of the LOB application must be encrypted
- Any other operational data (e.g., assignment of user ID to roles, assignment of roles to permissions, assignment of workflow roles), if not protected from access by a determined user, must be encrypted.

The successful Offeror will not be permitted to retain possession of the "master encryption keys" of any encryption system they implement or utilize with their proposed solution. This is required for any master encryption keys for all environments that contain sensitive or private data as described in C.4.3 - Separate Production, Staging, Development, Test, Training, and Query Environments.

Finally, because security control impacts the entire enterprise, its implementation must be easy to administer, verify and sustain.

Prior to the authorization of the new system, the following controls must be in place:

- Security Accreditation and Certification must be complete (see C.12.2.3– IT Security Certification and Accreditation)
- Relevant risks in Risk Assessment are mitigated
- Rules of behavior are established
- Contingency plans are developed and have been tested
- Security Plan is developed, updated and reviewed
- System meets all applicable laws, policies, guidelines and standards.

The system must be designed to control and limit access via logins and/or other security mechanisms. Access control and integrated security in general, must be managed by role rather than by authorizing a specific individual.

The principle of least privilege must be in effect. Critical functions must be divided among different roles so that no one individual has all of the necessary authority or information that could result in fraudulent activity.

The LOB solution must provide the capability for the system administrator to generate a status report detailing the values of all configurable security parameters.

Throughout the system, the system administrator will provide access and restrictions based on individual user roles. At a minimum, the LOB solution must provide the following controls:

- Transaction access
- Process access
- Transaction approval process
- Workstation location access
- Workstation time restriction
- Restriction of user access to operating system, system files and utilities
- Restriction of user access to security files and resources
- Prevention of users from elevating their privileges or managing their own access to resources
- Restriction of access by job function
- Restriction of access by organizational unit.

In terms of the types of access that may be granted, at a minimum, create, read, update, execute, and/or delete access must be available, but the Fund must also be able to restrict user access to the minimum necessary to perform job duties.

The Offeror must populate security repositories and associated them and their roles into the system using an appropriate security administration tool, and the Offeror must provide written affirmation certifying that it has done so prior to any User Testing or production activities. The Offeror must work closely with the Fund's staff to define the roles necessary to perform all required business functions.

The solution must provide support of LDAP or SSO authentication. The Offeror must provide a description of the method(s) of authentication provided and how that authentication appears to the user.

The system must provide an advisory warning message on the login screen regarding authorized and unauthorized use of the Fund's business information and the possible consequences of such violations.

Upon authorization of the login user name and password, the system must display, for that user name, the date and time either of the last successful login or the number of unsuccessful attempts to access the system since the last successful system access.

The LOB solution must not allow simultaneous logins with the same user credentials.

In general, the system must not allow simultaneous logins with the same user name and password. Should a user try to log in more than once, the system should ask him/her if he/she wishes to terminate the active

session. If the answer is yes, then the system must terminate the active session and establish a new session. If the response is no, the login will not be allowed. However, the Fund notes that in the current environment, IT support personnel, called to a user's desktop to diagnose a problem, are permitted to log in on that desktop with their own user-id even while maintaining the session they may already have open (but locked) on their own desktop. The Offeror is required to describe how the Fund can continue to provide this level of support while adhering to the single login policy stated above.

The user will either logoff the system or is automatically logged out of the system after a user administrator defined period of idle time (the maximum idle time value must be a parameter modifiable by the system administrator). The system must provide a notification one minute prior to a time out. Whether the user logs off or the system logs the user off after the idle time threshold has been exceeded, the system must then ensure that all objects created for the user at the back-end are destroyed and that the system exits cleanly.

After multiple unsuccessful login attempts, the system must:

- Disable the user account for a period of time previously defined by the security administrator
- Record the event for audit
- Inform the user of a contact who will unlock the account – or provide another means of authenticating the user password.

Passwords must be a minimum of eight (8) characters in length, include both letters and numbers, and be case sensitive. Passwords must not be displayed in the application at any time. When changing a password, the user must enter the old password once and the new password twice. If the password change fails, the user must be informed that the request to change the password has failed and the reason for the failure, in plain English. Then the user should be advised to try again by logging out and logging back in. Passwords must be stored in an encrypted manner so that they cannot be obtained by the Fund's systems maintenance personnel or any unauthorized intruder who gains access to the system.

If the user forgets his password, the system should supply a password Q&A to assist in remembering – and if that fails as well, the system administrator must be able to reset the password to a temporary value. The system must disable any account with a temporary password that is more than 8 days old.

The system must provide tools for the system administrator to manage user accounts. This will include such tasks as resetting a password and activating, suspending, or deleting a user account. These functions must be limited to only the system administrator or other well-defined privileged users.

The system must have the capability to suspend or activate a user account. This may occur for the following reasons:

- Account is locked out after password is entered incorrectly more than three times
- If the user temporarily is not entitled to access
- The account is suspended by a systems administrator, for example if a security breach is suspected
- The account has been inactive for an extended period of time.

The system must provide the capability to ensure that relevant information about actions performed by users can be linked to the user in question in sufficient detail so that the user can be held accountable.

The system must maintain information sufficient for after-the-fact investigation of loss or impropriety and must provide individual user accountability for all security-relevant events. The system must protect this information from unauthorized access or modification.

The system must provide tools for the system administrator to monitor the activities of specific terminals or network addresses in real time.

The system level log must allow review of key security events, including:

- Logon and logoff of users, including failed logins
- Change or reset of passwords
- Creation or deletion of users
- Amendment of user rights
- Suspension or activation of user accounts
- Archiving procedures.

The system administrator must be provided the capability to independently and selectively review the actions of any one or more users, including privileged users, based on individual user identity.

The system must provide a real-time capability to monitor and log the occurrence or accumulation of security-relevant events that may indicate an imminent security violation and immediately notify the system administrator when events exceed established thresholds. If the occurrence or accumulation of these security relevant events continues, the system must take the least disruptive action necessary to terminate the event involved.

The system must provide an interface for the Security Administrator to manage user accounts. The interface will include such tasks as resetting a password and activating, suspending or deleting a user account. These functions must be limited to only the Security Administrator or other well-defined privileged users.

There must be a reporting mechanism that allows security administrator(s) the ability to report the current security access for any individual or group of individuals by role for an on-going (annual) security review or on demand. One should be able to select an individual or a group of individuals, by name, role, organizational unit, or privilege to generate such a report.

Finally, as the proposed system is to be browser-based for both internal and external users, the Offeror must discuss its solution's approach to safeguarding personal and private information (as discussed in Section C.6.1 – Data Security) from fraudulent efforts to gain access to such information. The Offeror must provide methods to encrypt, redact or otherwise secure such information with respect to its level of confidentiality/importance and not only prevent unauthorized access but alert authorities of access attempts. That discussion must consider the Fund's categorization of data in the following levels:

- **Public** - Public information that may be made freely available, unrestricted, and has been approved for release to the public. However protecting the integrity of the information on the Web site is important (e.g., protection against hackers who seek to deface the Web page or change data). Examples of public data include information in the public domain, published annual reports, and press statements.

- **Internal use only** – Information that is accessible to and used by the Fund's personnel only, without restriction, in the performance of their job duties. Examples include internal memos, minutes of meetings, internal project reports, non-audit work papers, audit plan, procedures.
- **Confidential** – Confidential data that is sensitive information such as: human resource data, audit findings and conclusions that are not ready for distribution as well as internal audit working documents, accounting, and sensitive customer information. Examples include:
  - Private in nature, e.g., Social Security number, driver license or non-driver ID, account number, credit or debit card number with a security code (PIN) or account password
  - Personal in nature, e.g., payroll information (individual), retirement system information (beneficiaries)
  - Medical data, healthcare information, client reports
- **Restricted Confidential** – This is highly sensitive internal information such as: Investment strategy; legislative proposals; investigations; information protection review and penetration test findings; certain audit findings and conclusions that are not ready for any distribution; certain personnel/labor management actions. Access to this information is highly restricted and distribution is controlled to a very select few.

C.4.7.7 Offeror's Response

Any narrative related to the software being proposed should be included in Artifact P-3, Technical Solution Overview. Offeror should provide a detailed list of all the hardware necessary to support the proposed pension solution as Artifact P-5, Proposed Software List.

C.4.8 Installation and Configuration

An existing data center is available at the Fund to accommodate the installation of new hardware. As part of their response to the RFP (Artifact P-3, Technical Solution Overview, diagram of alterations as an Appendix to Artifact P-3), Offerors must stipulate any required alterations to the current configuration of this room to support the Offeror's proposed solution, both the LOB and all options (including but not limited to physical floor space, air conditioning load, power requirements, fire suppression, smoke, water, and heat sensors).

The Offeror must commit to be responsible for providing, and must (in the cost proposal) propose ALL costs associated with, the following installation services:

- Inventorying, uncrating, setting up, and connecting any new equipment and software and ensuring that all the proposed equipment and software are fully operational
- Labeling all hardware with simple labels including the server name and describing the function of the equipment; examples include but are not limited to "AppServerP – Production LOB Server" and "DBServerD – Development Database Server." Such labeling must be done in a form compatible with the Fund's existing naming convention and signed off on by the Fund prior to implementation

- During the period of "dual cohabitation" between the existing system and the new system, maintaining PC workstation access to both environments, but NOT for maintaining the Fund's legacy applications
- Installation, burn-in, and checkout of all PC, server, and related hardware and software
- Delivery and installation of all additional equipment (including but not limited to memory, cables, and connectors) required to establish the proposed configuration. Failure of Offeror to include all components to implement a complete, working system, will be cause for the Offeror (contractor) to make any necessary additions at no cost to the Fund
- Attaching all proposed devices to the network. This includes but is not limited to the running of and installation (in the computer room – up to the patch panel) of all required cables, hubs, routers, modems, UPS's, and surge protectors. This requirement includes upgrading (as necessary) and integration of any existing equipment retained in the new solution. All jacks, connections, connectors, ports, platforms, PCs, modems, and similar or related items will be clearly labeled using industry standard methodologies and labels
- Providing a schematic / network diagram of all platforms, servers, hubs, repeaters, modems, client PCs, printers, and similar or related items, which will be developed and maintained using an automated tool or package. The tool will be delivered to the Fund and maintained by the Offeror. The network diagram will be updated by the Offeror from the time of installation of the infrastructure though final acceptance of the new system no less frequently than every 90 days or whenever major new hardware or software changes occur. The Offeror shall include a sample of similarly prepared schematics with its proposal (as an appendix to Artifact P-3, Technical Solution Overview)
- Establishing the appropriate security level and access permissions / restrictions for each user on the system based on information obtained from the Fund's technical staff. The Offeror is also responsible for establishing system security measures necessary to protect operations against unauthorized internal or external access into the communications, servers/platforms or operating system infrastructure
- Establishing a menu-driven GUI interface, in coordination with the Fund's technical staff, with standard scripts, icons, APIs, and similar or related items for each user which will provide user access to the proposed software with full printing capabilities and the capability to route print from any workstation to any printer attached to the network, including remote users and remote printers. For example, a benefits counselor logged into the system from a remote location should be able to print a benefits estimate on a printer attached to his or her laptop computer or other remote device
- Documenting script, API, icon, and other set-ups
- If the Offeror is suggesting a physical or hybrid solution, providing racks for the mounting of all equipment in a neat and orderly manner in the computer room. The Offeror will install all new equipment in such racks. The Offeror must provide an inventory of same.

The successful Offeror shall incorporate into its schedule at the end of the hardware and commodity software installation period for the Fund's review, testing and acceptance of the hardware and commodity software. During that period the Fund will assess installation and configuration of the system hardware, cabling, and related components, as well as the commodity software. Prior to acceptance, the successful

Offeror shall evidence that all hardware components have been registered with the hardware manufacturers and all commodity software products have been registered with the commodity software publishers under the Funds name as owner.

Offerors must understand and agree that there will be a minimum of "downtime" available to them to support installation, configuration, tuning, and similar or related activities. Thus, Offerors must plan on completing this work during evening and weekend hours.

The Offeror must state in its cost proposal its hourly rate for customization of scripts, APIs, software, and similar or related items over and above that required in this RFP.

C.4.9 OPERATIONAL REQUIREMENTS

Given the Fund's expectations of greatly increased member self-service via Web-browsers and the like, the Fund believes that the application architecture must support member Web-based access near 24 hours a day, 7 days a week, except during those times specifically scheduled (by the Fund) for system maintenance, backup and downtime.

C.4.9.1 System Sizing and Performance Requirements

The Offeror must specify the configuration of hardware and software platforms on which the new solution will be implemented, as well as their configurations.

It is the Offeror's responsibility to recommend an appropriately sized solution to accommodate the following:

Table C-5: Solution Sizing

Type of Environment	Potential Fund Users (whether on-site or off-site, i.e., remote locations)	Potential External Users (Employers and Other business Partners)	Potential External Users (Members, Pensioners, Beneficiaries)
Production	200	75	80,000
Staging	100	25	50
Development, testing, training, other	100	25	50

In the table above, note that "potential users" means the count of users that could possibly, if appropriately authorized, log in to the system. It is up to the Offeror to appropriately size the solution to accommodate the actual number of users, based on the potential number of users listed above along with the likelihood of concurrent usage.

The Offeror should consider current workload and resources as described in Table B-1 when projecting appropriate sizing. The proposed configuration should support a strategy to dynamically manage traffic across servers to obtain appropriate load balancing.

The Fund's objective with respect to multi-task, typically unattended processing is simple –all processes described in the RFP and the proposal must be able to be run concurrently while the system continues to meet response time and elapsed job processing requirements. To that end, the Fund requires:

- Response time requirements must be met independent of what other jobs, processes, or scripts are being executed.
- On-line response time requirements must be met independent of how many Fund users are on line, how many Web-based users are on-line, and independent of what processes or scripts are being run –

such as wage and contribution edits, wage and contribution posting, interest posting, payroll running, etc.

- Elapsed time performance requirements for various process-intensive activities must be processed within the following timeframes:
  - Wage and contribution edits: 40,000 members/hour
  - Wage and contribution posting[4]: 50,000 members/hour
  - Interest posting: 50,000 members/hour
  - Payroll Processing[5]: 40,000 retirees/hour
  - 1099 generation: 50,000 individuals/hour

The application must be architected such that ALL functionality, including tasks such as employer reporting, can be processed on-line in real time – both editing and updating. Solutions architected that collect user input during the day and perform off-peak (typically night)-time batch jobs to update the LOB database will be rejected. The fund understands that some tasks such as the production of monthly payroll checks and year-end 1099s require minimal interactive input from the Fund's staff member followed by significant processing time. Tasks such as these are the extent of what may be considered unattended processing tasks. However, they must be able to run simultaneously during normal working hours without compromising interactive system performance in any way.

The Offeror's solution must be architected, configured, and sized so that ALL functionality (including employer reporting) can be processed on-line in real time – both editing and updating. In general, solutions that require overnight batch jobs to update the LOB database will be rejected. During system design, the Fund will consider permitting a small number of unattended process routines for very limited purposes providing the Offeror can justify the proposed exceptions and can ensure that those exceptions will not in any way compromise the Fund's business processes. The Fund's expectation is that unattended processing will be confined to end-of-period jobs such as the production of monthly payroll checks, year-end 1099s, and annual member statements. The Offeror is to provide a complete and comprehensive list of all such unattended processes in its proposal (as an appendix to Artifact P-2, Business Solution Overview), along with an explanation of why these processes have to be performed in such a manner and assurance that those unattended processes will not, in any way, compromise the Fund's real-time, interactive business processes.[6]

The Offeror's proposed solution must provide near 24x7 availability for all Web-enabled capabilities. At a maximum, Offerors may allocate four hours per week of scheduled Web site downtime. Degradation of the Fund's current system availability is not acceptable.

The proposed solution must meet the following system response time and performance criteria:

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[4] Must include any processing necessary to do enrollment processing of a new member

[5] Must include the actual printing of checks for those recipients not using EFT

[6] Such assurances must confirm that regardless of which and how many of the unattended processes or scripts are running simultaneously in the background, NYCPPF's interactive performance requirements of the system will continue to be met.

- Offerors must ensure response time averaging two (2) seconds or better, and never more than three (3) second response time, for all on-line activities. Response time is defined as the amount of time between pressing the RETURN or ENTER key or depressing a mouse button and receiving a data-driven response on the screen, i.e., not just a message or indicator that a response is forthcoming. For this purpose, response time will be measured on a PC permanently connected directly to a private LAN segment – in order to eliminate any issues that could be attributable to the Fund's LAN traffic, or other software that may be running on users' workstations over the LAN, or other similar issues. Vendors must include this PC in the list of recommended hardware to be included as part of the project's mandatory requirements.

  For the specific case of imaging, the Fund provides the following clarification of the 2-second response time requirement:

  - The following example requires an average response time of two (2) seconds: Retrieval of first matching member's folder from a search based on a non-unique indexed item. The entire result set from the query does not need to be returned within an average of two (2) seconds. For instance, upon entering a complete last name search (no wildcards) for "Smith", the imaging application should retrieve the first matching member's folder or indicate no records found with an average response time of two (2) seconds.
- The following example is excluded from the two (2) second response time requirement: Advanced search queries utilizing wild cards and Boolean logic. Example: Search for last name like "Smith%" and first name not like "Sa%".
- System uptime as specified in Section 99.9%, High Availability Requirements.
- Any unattended process being executed must complete in a reasonable amount of time and must also take into consideration recovery time, if the unattended process should fail. Unattended processes must complete in a timely fashion to meet business requirements and business calendars.

These response times must be attained while running load tests which include mutually agreed-upon (by the successful Offeror and the Fund) volumes for Fund users, employers, other business entities, members, pensioners and beneficiaries based on a percentage of potential users as listed above in Table C-5: Solution Sizing.

In sizing their proposed solutions, Offerors must provide all background information to support their conclusions regarding the amount of system resources needed in the following areas:

- Servers
- Speed
- Number
- Processors
- Workstations (desktop PCs)
- Backups
- Memory
- Storage
- Network traffic

- Cabling.

If the Fund requires additional runtime improvements to meet performance requirements stated in this RFP, the Offeror must cooperate fully and support any such requests without delay and at no cost to the Fund.

C.4.9.2 Scalability Requirements

The solution must provide the ability to scale the environment beyond that necessitated by the current growth predictions through the addition of hardware (or hardware components such as CPU and RAM), further partitioning the application to scale across hardware, or other means.

C.4.9.3 High Availability Requirements

The solution must provide for a system uptime of 99.9%, or near 24 hours a day, seven days a week, for all major functions proposed**.** Activities such as maintenance, backups, system change migration, unattended processes, etc. should generally take place while the system is "up", and thereby minimizing the need for scheduled downtime. For the 0.1% downtime, the Fund expects that 90% should be scheduled. From a typical user standpoint (both internal Fund staff and external customers), the system should be reliable and robust to promote user acceptance. The Fund is interested in the Offeror's view of this requirement in relationship to the potential overall cost and complexity of the system.

Offeror must specify how availability is measured, under what conditions this guarantee will not be met, and the remedies available to the Fund if it is not met.

To the extent that the proposed system is distributed, all components must be designed redundantly, so that the system maintains availability through any single component failure. Certain common infrastructure components (DNS, routers) that provide the desired level of availability may already be in operation and available within the Fund. The Fund will be responsible for updating/maintaining physical data center capabilities including, but not limited to Data Center(s)' cooling system, electrical system, IT equipment, and physical structure of the building(s). See Section B.2 for information about the current capabilities at the Fund's Data Centers.

The Offeror must ensure that processor and database intensive processes, such as month-end payroll production or interest application, are completed within four hours from their initiation – and that such jobs have no impact on interactive access performance even while they are executing.

C.4.9.4 Planned Downtime Requirements

To explain how planned downtime issues can be minimized within the new solution, the Offeror's proposal (Artifact P-3, Technical Solution Overview) must address:

- How the solution minimizes (or removes) the need for maintenance of architectural and operational infrastructure. This includes online maintenance tools, as well as procedures and techniques to shrink scheduled maintenance windows
- Maintenance activities for hardware, operating system, software, application, database and network components

- Upgrade activities for hardware, operating system, software, application, database and network components.

Offerors should include a methodology to demonstrate the on-line maintenance techniques applicable to the planned downtime areas identified above.

C.4.9.5 Recoverability Requirements

Offerors should include in their proposals (Artifact P-3, Technical Solution Overview) information on recovering from failures if the proposed high-availability solution components or procedures fail. The response must include recovery types and levels offered by the proposed high-availability solution. Examples include:

- Services offered, such as 24×7 service contracts
- Types and levels of service provided
- How a Offeror responds to failure scenarios, including how components are replaced
- Restore/recovery procedures
- Tools employed to restore the database and application to the users.

To confirm the proposed solution's ability to meet reasonable recovery requirements, Offerors are required to provide recovery time estimates. Examples (to be met) include:

- Full database recovered within 4 hours
- No individual table recovery of more than 2 hours
- Recovery of full on-line imaging capability within 8 hours.

Furthermore, provision of interim recovery is expected to be a feature of the system. For example, should a process be 95% complete when the system fails, the process should have been check-pointed and should not have to be re-run in its entirety. The Offeror is to describe in its response how this capability is achieved.

C.4.9.6 Operational Support Requirements

Operational support encompasses the personnel, procedures, and tools for day-to-day operational support, maintenance, upgrades and monitoring of the system.

To address how operational support issues can be minimized within the new solution, the proposal (Artifact P-3, Technical Solution Overview) must address how the proposed solution will:

- Provide an environment that leverages appropriate operations management tools, including both day-to-day systems management tools (e.g., performance monitoring) and capacity planning tools
- Include Offeror-provided tools for monitoring the system and Offeror assistance in setting operational standards for those tools
- Offer an environment that minimizes the cost and work effort of operations support.

Offerors should specifically discuss pertinent operational architecture aspects of the solution, including prevention of failures, meeting availability requirements, general keep-alive system activities, and scheduled or planned downtime.

C.4.9.7 Security Considerations

The Fund will not accept a solution to which acknowledgement of security concerns are "bolted on" as an afterthought. Security must be designed into the solution and assist in providing a protective shell within which the solution operates effectively – and securely. To that end, the Fund requires that the successful Offeror highlight as part of every requirements and design document those aspects of the particular set of requirements and design that pertain to security. Starting with, and in the context of the Security Plan (see Section C.12.2.2), the Fund reserves the right to review all requirements documents for security concerns and design documents for answers to those indicated concerns. In addition, the Offerors described in Sections C.5.1.3.1 and C.5.1.3.2 will provide assistance in reviewing the design, development, testing, and rollout of any and all security concerns.

C.4.9.8 Network Vulnerability Assessment

Protection of member information through means such as determination of system vulnerability is a critical issue for the Fund. The successful Offeror is responsible for providing a secure network environment. To ensure the security of the environment, the Offeror must specify, provide, install, and configure suitable hardware and software tools including, but not limited to, virus protection software, patch management, firewalls, secure VLANs, and intrusion detection systems (IDS) if it is determined that the Fund's current network security systems are not appropriate for the new LOB.

A third-party organization, selected by the Fund, will, at a minimum, conduct periodic vulnerability assessments of the network. These assessments will be conducted at the following intervals:

- At the time of the initial installation of the infrastructure
- At the time of the completion of **each** functional rollout phase
- Once during the warranty period prior to final handoff of the solution to the Fund.

Thus, if there are two functional rollouts, there will be a minimum of four separate vulnerability assessments performed.

The scope of the vulnerability assessment will include at a minimum, a scan of external entry points into the network, a review of all devices on the network with static IP addresses and a random 10% sample of the DHCP devices and, to the extent they apply, a review of server, firewall and IDS configurations. The definition of the full scope of the assessment will be the responsibility of the third party organization performing the assessment and approved by the Fund.

Upon completion of the assessment, the third party organization will review all events with Fund personnel, determine which of the identified shortcomings are false positives and which actually need repair and agree upon any remaining shortcomings. In the event there remain shortcomings in the network security configuration, the successful Offeror will be immediately notified. The Offeror will be responsible for rectifying all remaining shortcomings within fifteen (15) business days of being advised of them. The rectification effort may consist of any combination, or all, of the following elements:

additional hardware components, additional software tools, installation services, and/or configuration services. It must include suitable testing to confirm to the Fund's satisfaction that all of the identified security shortcomings have been eliminated. Subsequent to the initial fifteen day rectification effort, the third party organization will again assess network security. If additional shortcomings are identified and further repair deemed (by the Fund) to be necessary, the successful Offeror will be so informed and will have ten (10) business days to provide final rectification. All costs associated with any rectification effort (including any and all verification by the third party network verification organization that said rectification was sufficient) will be borne by the successful Offeror.

In the event that the Offeror is unable to resolve all network security issues to the satisfaction of the Fund and the third-party assessment organization in two iterations as described above, the Fund reserves the right (and will notify the Offeror of its intent) to engage the services of another (different from the organization doing the security and vulnerability analysis) third-party organization to resolve all remaining network security issues. In this situation, the Offeror will issue a credit to the Fund for the full amount of the cost of the third-party organization's efforts to correct the situation. The credit will be applied to the first invoice issued by the Offeror to the Fund following notification to the Offeror of the amount expended on the additional assessments and/or third-party services. The Fund will make reasonable efforts to insure that the cost of any goods or services procured by the Fund under this Section (which shall ultimately be borne by the successful Offeror) are reasonable.

C.4.10 SOFTWARE VERSION CONTROL

Software version control software must be provided. At a minimum, automated date/time stamping and labeling of various versions must be supported. At least three (3) generations must be maintained on-line. The software version and configuration control tools and methodology must be:

- An industry standard set of tools and methodologies and
- Described and discussed in the Offeror's proposal (Artifact P-3, Technical Solution Overview)
- Able to track source code changes between versions for audit and control purposes
- Capable of generating reports directly from the version control software that, among other capabilities, differentiate one application build from another.

C.4.11 INTERFACE REQUIREMENTS

C.4.11.1 Remote Access

The Fund believes that the community of remote access users is divided into four groups:

- **Members and Retirees** – Individuals with controlled access to their member record as well as a range of administrative functions, such as benefit estimates and address change requests
- **Employers** – Organizations who require remote access in order to complete Web-based reporting of member wages and contributions along with any administrative tasks related or unrelated to wage reporting
- **Other External Stakeholders** – Individuals (some third party payees, other retirement systems, etc.) who require access to view, extract, or submit information pertaining to a member(s), pensioner(s), or beneficiary(ies). These are further detailed in Section C.4.11.2.
- **Staff Members** – The Fund's employees who work from home or who log in from remote counseling and member education sites
- **IT Support** – those members of the Offeror (or software or hardware support) staff who have been contracted to provide (sometimes remote) support of the system.

The Fund further believes that all five groups should be given access via the Internet. Such access would mean that staff members, for example, logging into the Fund's system from outside the Fund's office would continue to have access to the same services (such as office automation, LOB application, workflow, imaging, and e-mail) that they enjoy while sitting at their desks.

Vendors must describe in their proposals (Artifact P-3, Technical Solution Overview) how the solution they propose would affect the required remote access for the groups described above. The description must include discussions of:

- The particular features to which each group of user would have access
- How security would be managed for members of each group
- The advantages and disadvantages (both technical and user-related) of such access and how the Offeror has overcome the challenges posed by remote access in prior installations.

C.4.11.2 Integration with External Entities

The new pension solution must interface with the following external entities:

- FISA/OPA
  - Payroll Cycle Extraction Files – Employee demographic, payroll and deduction information
  - PMS
    - **Leave Information**

        - **Contribution Rates**
        - **Loan Setup and Adjustments**
    - PPMS
        - **Pensioner Payroll**
        - **1099R Generation**
        - **Refunds**
- NYPD
    - PEZT
    - DADS
    - LIMS
    - FINEST
- NYCAPS
- OLR
    - Health Insurance
    - Differed Compensation Loan History
- Actuary
    - Benefit Certification
    - Option Certification
    - Annual Data Feed for Valuation
- NYS Office of Temporary Disability Assistance, Child Support Enforcement Unit
- NYCERS
- Buyback/Transfer Information – Prior earnings and service information
- COMPTROLLERS
- Bank

C.5 PROJECT MANAGEMENT-RELATED REQUIRED SERVICES AND DELIVERABLES (INTRO)

In addition to the business and technology requirements specified, the Fund has identified several project management-related areas that are of importance in selecting an Offeror. These requirements have been accumulated under a single heading — Project Management-Related Required Services and Deliverables. The intent of this section is to inform the Offeror of its responsibilities and the expectations for its conduct over the duration of its relationship with the Fund in the following areas:

- Project management
- Assisting the Fund's staff and users
- Standard project management deliverables
- Process and organizational change recommendations and transition management
- Data
- Project staffing
- Training and knowledge transfer
- Testing.

C.5.1 PROJECT MANAGEMENT (INTRO)

The Fund expects the Offeror to be competent in project management skills. The Offeror's approach to project management must ensure that:

- Project planning is part of normal daily activities
- Resource planning occurs in conjunction with the Fund's management
- There is an established path for escalation of project issues
- Risk management is included as part of the normal process
- Project management is able to provide reports to the Fund's business units and management on the progress against project objectives, to ensure continued project support
- The project plan is organized in a phased approach that provides achievable and demonstrable milestones and deliverables. The engagement should be managed to meet specific milestones with an established method of reporting project status.

C.5.1.1 Relationship

This engagement will be a long-term relationship; therefore, the nature of the relationship will be key to the success of the project. To address this issue, the proposed solution and approach must ensure that:

- The Offeror has a demonstrated ability to understand and deliver realistic mission-critical systems
- There is a high degree of cooperation between the Fund and the Offeror

- The Offeror can provide technical leadership and has the courage to suggest innovative solutions and take advantage of opportunities as they present themselves
- The Offeror understands the aggressive nature of the schedule and will take ownership of tasks in a proactive manner
- The Offeror understands the vision for the Fund and is able to align the Offeror's capabilities with the Fund's needs
- The relationship is not an opportunity to sell untried Offeror offerings that may place the Fund at risk in meeting its business objectives.

C.5.1.2 Project Oversight

The Offeror will report to the Fund's Project Manager, who will be a Fund executive staff member dedicated to this project on a part time basis. The Fund will assign an assistant project manager on a full time basis. The Offeror will report project status as described in Section C.5.3.2.

C.5.1.3 Multi-Party Relationship

All Offerors must understand and acknowledge in their proposals (Artifact C-1, Certifications) that the project is a multi-party relationship between the Fund, the Offeror, and the 3rd party project Offerors selected by the Fund.

This may include, but is not limited to, the following types of Offerors:

- Independent Verification and Validation Vendor (IV&V)
- Quality Assurance / Testing Vendor (QA/T)
- Change Management / Training Vendor
- Security Vendor
- File Scanning Vendor

C.5.1.3.1 Independent Verification and Validation Vendor (IV&V)

The IV&V Offeror will provide an object assessment of the process throughout the project lifecycle in an environment organizationally free from influence, guidance, and control of the development effort. Elements of this role will include:

- Monthly reporting to the Executive Director and the Fund's Steering Committee
- Findings present as discrete performance measures in terms of monitoring of scope, schedule, milestones completion, funding expended and quality of deliverables. Continual monitoring of risks and assessments.
- Twice Annual Reporting to the Board of Trustees
- Confirmation of project progress and risk assessment.

- All written project materials (e.g., statements of work, project plans and schedules, design documents, test materials, training materials, form and letter templates) are to be provided directly to the IV&V Vendor by the Offeror, as well as to appropriate the Fund's staff for review. The IV&V Offeror will review all such materials and provide suggestions and comments in the same time frame and in the same manner as will the Fund's staff.

C.5.1.3.2 QUALITY ASSURANCE / TESTING VENDOR (QA/T)

The QA/T Offeror will provide the testing skill set and services required to plan, develop, and execute appropriate testing for the new software platform.

C.5.1.3.3 CHANGE MANAGEMENT / TRAINING VENDOR

The Change Management Vendor may create internal operational assessments of the Fund's current staffing needs. This Offeror may also assist in the development and execution of training related to changes due to this project.

C.5.1.3.4 SECURITY VENDOR

The Security Vendor will create external and internal vulnerability assessments of the Fund's network and host diagnostic reviews of the new system. The Security Vendor will perform a security certification of the new system before it is made available via the internet.

C.5.1.3.5 FILE SCANNING VENDOR

The File Scanning Vendor would complete the certified scan of the Fund's active membership folders. These digital images will be made available for conversion into the new document repository.

It is the Offeror's responsibility, and not the Fund's, to deliver such project materials directly to these Offerors. This delivery to a third party may well require additional document preparation steps relative to the delivery to the Fund's staff. This limitation may require additional planning and coordination on the part of the Offeror to ensure that materials are delivered for review in a timely fashion. Offerors are cautioned to factor into their project-staffing plan any additional efforts related to delivery of project materials to these Offerors.

After contract execution at the project's inception, the Offeror will be provided with contact information and distribution lists for submission of the various project materials.

Offerors must acknowledge in their proposals (Artifact C-1, Certifications) that it is their responsibility to provide all such written project materials to an Offeror as described above (as well as to the Fund's staff).

The Fund's Offerors will be bound to reasonable commercial terms of confidentiality protecting the confidential or proprietary information of Offeror and its subcontractors. As such, no material will be limited in its distribution and/or restricted from review and discussion with such a consultant.

C.5.1.4 Offeror Responsibility for Detailed Requirements Definition

Offerors must note that the Fund's environment is governed by a myriad of laws, rules, regulations, "standard" operating procedures, and long-standing practices (both formal and informal, documented and undocumented). Developing a full set of all of the laws, rules, regulations, procedures, and practices that need to be accommodated in the new solution is a critical, integral part of the project – and the key to its eventual success. Offerors must factor into their proposals, in terms of manpower, cost, and schedule, their responsibility to completely:

- Explore and define all such laws, rules, regulations, policies, procedures, practices, and calculations – both written and unwritten (i.e., policy of long standing) – that currently exist and those to be added in the new environment
- Develop pertinent specifications
- Implement those capabilities.

In preparing their responses to this RFP, Offerors are cautioned to budget sufficient manpower to decompose this information to a level of detail sufficient to obtain sign-off from the Fund's staff during the initial phases of the implementation.

Among other factors, Offerors' responses will be evaluated on the basis of their commitment to this portion of the effort, as evidenced by their work plan for addressing this issue and the manpower, time allotment, and quality of Offeror staff proposed to be dedicated to it.

Because this issue is critical, Offerors **must affirm in writing, both in their proposals (Artifact C-1, Certifications) and in the accompanying cover letter,** their understanding of this responsibility. In developing the requirements definition of the new system, the Fund expects the selected Offeror to involve Fund staff members in many requirements and design "workshop" sessions. This involvement of staff members is understood by the Fund as being essential to preparing correct, comprehensive requirements definitions and systems designs. Yet the time required of Fund staff for this level of participation may inhibit the day-to-day business of the Fund. Therefore, the Fund requires that staff participation in the requirements definition process be as efficient as possible. This includes determining what staff will be needed and when so the Fund's management team can plan workload issues and schedule conflicts in advance.

To this end, any written materials supplied by the Offeror for use in requirements and design meetings with the Fund's staff must be targeted specifically to the Fund. The Fund recognizes that the Offeror may utilize materials prepared for other retirement system customers to "bootstrap" the design definition effort. However, such materials must be purged of any specifics (including but not limited to name references, forms numbers, and calculation routines) that relate to another of the Offeror's customers. Ideally, these materials should be tailored to the Fund's specific business practices from the time they are first exposed to the Fund's staff members. At a minimum, they must be neutral, that is, they must not contain any overly specific references to specific practices of other retirement systems so as to avoid any confusion or wasted effort during the requirements definition and design sessions with the Fund's staff.

C.5.1.5 Project Management and Control Methodology

Offerors are required to address in their proposals (Artifact I-7, Project Management Plan) the following minimum requirements in the areas of project management and control.

The Offeror must describe in detail the methodology it will utilize to manage and control the project including its change control methodology.

Due to the magnitude and complexity of the effort, it is essential that an automated project management tool be utilized for this purpose; Microsoft Project is the required tool. The Offeror will deliver to the Fund the Microsoft Project files at various points in the project.

The Offeror is to provide examples (As an Appendix to Artifact I-7, Project Management Plan) of its use in previous efforts on behalf of other clients.

The Offeror is expected to use the tool to automatically reflect the effect on the overall project of changes in various parameters, e.g.:

- Changes in project scope / requirements
- Changes in project schedule
- Changes in resource availability.

The Offeror must be prepared to automatically generate various reports to reflect the project's status at any point in time, e.g.:

- Gantt charts depicting start date, end date, interdependencies, and duration of individual tasks
- Graphical display of the project's critical path
- Percent complete status of individual tasks
- Calendar driven, manpower loading charts, by individual task, for both Offeror and the Fund's staff including variable man-hours per work day
- Calendar driven manpower loading charts, by month/week, for both Offeror and the Fund's staff including variable man-hours per work day.

The Offeror must describe in its proposal (Artifact I-7, Project Management Plan) the control methodology that it will utilize to ensure that any problems that may develop in the course of the project (including but not limited to schedule slippages or resource constraints) will be quickly identified and resolved. The Offeror must provide examples of how this project control technique, i.e., issue resolution, has been utilized successfully in previous similar engagements on behalf of other clients.

The project management tools must be an integrated part of the Offeror's system development life cycle approach and project management methodology.

Change management and change control methodology are critical to the success of this effort. The Offeror must describe the methodology and mechanisms it has in place and will use to support the effort. Particular emphasis must be placed on how revisions will be managed and controlled, as well as the Fund's responsibilities in this area.

C.5.1.6 System Development Life Cycle (SDLC)

Out of consideration for the demands that will be placed on the Fund's staff members during the course of the project, in addition to the demands of their day-to-day duties, Offerors must state their commitment to utilize a single system life cycle methodology and terminology for all portions of the project. For example, if the Offeror proposes to procure, customize, and integrate a third party "payroll generation package" into the overall solution, then all activities relating to the payroll package must observe the same system life cycle methodology that will be utilized in developing the rest of the line-of-business solution. The Fund's staff members are to be educated in and expected to utilize only one (not several) life cycle methodology and terminology set for the duration of the project.

The Fund prefers methodologies that allow staff multiple opportunities to validate requirements and design. For this reason, an iterative development methodology is favored for use in the development of the pension application. Ideally, this includes an opportunity to view rapid prototypes of requirements and design concepts, screens, content, and application flow. (Such prototypes do not necessarily need to become operational nor be reused during development.) Simulation of workflow and performance measurement within the design effort is also desirable.

The Fund has a high level of concern with regard to the system development life cycle and configuration control. The project will, of necessity, be divided into multiple functional rollout phases, each including numerous activities / tasks which will be implemented sequentially or on an overlapping basis. Each rollout phase will involve numerous deliverables (documents and software), which will be submitted to various Fund staff members for review and revision over multiple iterations. Active participants will include not only the Fund's staff, but also the Offeror's staff; possibly working from multiple locations, as well as other contractors to the Fund whose activities must be coordinated with the new system development effort. This may include quality assurance consultants, oversight project management consultants, process change consultants, and others.

The Fund currently has the following preference regarding the implementation order of phases within the overall engagement. The capability described in Phases 1, 2, and 3 below must be provided first; others are open to discussion. The Offeror should provide information regarding its preference if different from the following order (see also Section C.5.1.7 Phasing the Project):

1. Detailed work plan, a top-level Concept of Operations document (described in Section C.5.2.1), a Risk Management Plan (described in Section C.5.3.8), and a Development Methodology Overview – End User document (described in Section C.5.2.2).
2. Detailed requirements document, a revised detailed work plan, and an updated Requirements Traceability Matrix.
3. Installation and configuration of all new / upgraded hardware and software, including ECM capabilities
4. Phased implementation and rollout of solution consisting of at least two stages during each (all) of which the successful Offeror will be responsible for the execution of its solution development methodology (final requirements sign-off, configuration and development, data conversion (described in C.6.2), unit, system, life-cycle, etc., testing (described in Section C.10), training of Fund personnel (and employers if necessary) (described in Section C.9), documentation, etc.)

5. Post Implementation Warranty (described in Section C.12.2.1)
6. Post Warranty Support (described in Section C.12.2)

The Fund's objective is to be assured that an appropriate control scheme is put in place and rigorously applied to all project activities such that all project participants understand what they are working on, what is expected of them, and how it fits into the overall project. Specifically, the Fund wants to ensure that, without exception, all project participants – the Offeror's staff, the Fund's staff, and all concerned third parties – when approaching a task (whether it is developing software, drafting / updating written documents, or reviewing a deliverable), clearly understand:

- The phase of the project to which the task relates
- Which revision / release they are working on (and that it is the current revision / release)
- The date of the revision / release
- How many previous versions were developed and reviewed
- What has been changed, added, or deleted relative to the previous release
- What functions or features the delivery should contain and what it should not contain
- If it is a written deliverable, how many pages it should contain
- When a response is required
- When the next release can be expected.

Below, the Fund has compiled minimum requirements for maintaining control throughout the project to its successful conclusion. The Offeror is required to include in its proposal (Artifact I-7, Project Management Plan) a detailed description of the control procedures and methodologies it plans to employ to ensure adequate project control as described below.

C.5.1.6.1 WRITTEN DELIVERABLES

In its proposal (Artifact I-7, Draft Project Management Plan), the Offeror must confirm that (unless otherwise specifically agreed to by the Fund, on a per-document basis) all documents to be delivered during the project will include the following "history" of generation:

- Submittal of an annotated outline for review and approval (only required for the first document of a class, i.e. a specification template/outline would only need to be delivered once during the project unless the template is modified during the project)
- Submittal of the final, complete draft for review and approval
- Submittal of the final, complete document for final review and acceptance.

Each of the above submissions must follow a standard number versioning scheme so when accessing a document the reader will quickly know the "state" of the document. For example, all outlines might be version 0.1-0.9, drafts state might then be represented by version 1.0-1.9, and a final document, version 2.0 and above. Offerors must describe their proposed numbering scheme in their proposals (Artifact I-7, Draft Project Management Plan).

Furthermore, all documents, starting with the response to this RFP, must be delivered in a current or immediately previous version of MS Office Suite (Excel, PowerPoint, Word, and Visio) or MS Project. These files must be in an "unlocked" form such that the Fund can use revisions and comments in reviewing them.

For any well-defined class of documents (e.g., business process models) the Fund may require the Offeror to supply a single outline, a single sample section, and a single draft sample pertaining to all documents in that class. Also, it is understood that, in most cases, multiple drafts will be submitted for review before the final document can be submitted for acceptance. All revisions to drafts must use the MS Word "track changes" feature that clearly indicates changes between each version. The Offeror will be required to supply to the Fund's Project Manager MS Word and/or Excel file(s) and/or graphical representation software file(s). The distribution process will be agreed to at the commencement of the project, but will require the Offeror to distribute the delivered documents (or notification of their having been published) to all reviewers including the Fund's third party Offerors.

The Offeror is required to detail its proposed document formatting standards pertaining to written deliverables, taking care that the following topics are included:

- Cover page (including document title, version number, and date)
- Revision history
- Table of contents (if the document is over five or six pages)
- Page headers and/or footers (including page numbers)
- Captions on tables and figures

The Offeror is also required to detail its proposed control methodology pertaining to written deliverables, including at least the following topics:

- Every document deliverable must be delivered or submitted to a repository such as MS SharePoint in electronic form.
- Every deliverable must be fully integrated in the sense that all diagrams, screen images, report layouts, spreadsheets, and similar or related items must be inserted in the appropriate place. References to external files are to be avoided
- At the completion of a phase, all accepted and final documents should be packaged in hard copy and suitably bound both for the convenience of the reader and to prevent the loss of pages. Documents of fewer than 40 pages can simply be stapled.
    - Larger documents must be delivered in some sort of binder, and if they exceed 100 -150 pages, they must be delivered with dividers separating major sections
    - If a binder is used, the document title, identifier, revision number, effective date, and issue date must appear on the cover and the spine of the binder
- Every deliverable, without exception, must be accompanied by a notification of transmittal which indicates:
    - The title and identifier of the deliverable
    - The revision number

- A summary of how this version has changed relative to the last revision (e.g., referring to a review meeting where the previous version was discussed). Other than this high level written summary, detailed changes may be shown in WORD "revisions" for ease of understanding
- The date by which comments must be returned and to whom they must be forwarded; other actions may be requested, such as requesting the Fund to set up a review meeting
- Note: The Fund's staff must always be allocated a minimum of ten (10) business days to turn around a deliverable under review. In addition, all deliverables must be reasonable in volume in order to permit the review to be completed within ten (10) business days. A deliverable which would require the average person more than eight (8) applied hours to review would not be considered reasonable in volume given the five day turnaround cycle. Deliverables requiring more than eight (8) hours of review must be allocated a proportionately longer review cycle. Also, the Offeror shall not be permitted to deliver an unusually large quantity of deliverables in a short time period (i.e., NO "PILING ON") that would preclude the Fund from meeting their review timeframes.
- If applicable, notice that this is the last revision cycle and the next release will be the final document – or, alternatively, an indication of when the next release can be expected to be delivered.

C.5.1.6.2 SOFTWARE DELIVERABLES

The Offeror is required to detail its proposed control methodology pertaining to software deliverables, taking care that the following minimum requirements are explicitly included:

- Installation of the application software on the appropriate hardware platform(s). The end user must easily be able to identify, within the software, what release or version of the software they are using as well as the release date (e.g., by going to Help>About).
- Easy end-user identification of which environment they are working in (i.e., QA vs. Production)
- All reports must display in their header or footer the version/release number, the date of last modification of the software (not simply the report print date) that generates the report, as well as the name of the program that generates the report. All reports shall have unique names, as well as the date of the report run, printed in the heading
- With each revision or release of software, documented release notes must be provided for each environment into which the software is promoted (QA and Production). Prior to any move to Production, release notes must be delivered and signed off by both the Fund and Offeror project managers. The release notes must include:
  - A list of all specifications (or similar design documents) and the version number of each reflected in the software delivery
  - A list of all change orders reflected in the delivery
  - A list of all differences between the previous and current release (i.e., fixes, newly discovered defects [regression] and new functionality).

C.5.1.6.3 TRACKING OF WRITTEN DELIVERABLES

It is the Fund's intention that both the Offeror and the Fund will make a concerted effort to track all deliverables, both written deliverables and software deliverables. Absent a detailed procedure for tracking deliverables, there is great concern that serious problems including but not limited to the following will arise: some people who should review a deliverable will not receive a copy, some people will find themselves reviewing an outdated (non-current) version, or feedback from some people on a particular deliverable will be overlooked.

The Offeror is required to detail its proposed control methodology pertaining to tracking written and software deliverables, taking care that the following minimum requirements are explicitly included:

- The Offeror will maintain a computerized deliverables control file (readily available to the Fund Project Manager to review on-line or in printed form) which will always provide the current status of any particular deliverable (written or software); this tracking control file must contain a separate tracking form / record for each revision / release of each deliverable, indicating:
  - Title and identifier of deliverable
  - Functional area (i.e. benefit calculations, purchase, etc.)
  - Current version of deliverable
  - Date of issue
  - Project phase to which the deliverable pertains
  - Short description of the deliverable
  - Current owner of the document, i.e., the Fund or Offeror
  - Date that the response is due from the Fund's Project Manager or the next revision is due from the Offeror.
- The Fund's Project Manager will maintain a deliverables control file containing the same information (listed above) for each deliverable received from the Offeror
- In general, responses to deliverables will be channeled through the Fund's Project Manager, who will record the receipt of the responses in the Fund's deliverables control file, prepare a single consolidated response, and forward it to the Offeror
- At the project management status meetings, the Offeror must formally report all of the deliverables issued during the status reporting period in a cumulative table format showing the delivery and anticipated turnaround dates. The Fund's Project Manager will confirm that all deliverables reported by the Offeror were received based on the Fund's deliverables control file. To avoid deliverables "slipping through the cracks," the Offeror will submit a weekly report of deliverables' status, e.g., those awaiting review, in revision, in test, in rework. Refer to Section C.5.3.2 for additional status reporting requirements.

The Offeror must describe in its proposal (Artifact I-7, Draft Project Management Plan) its approach to the above, including providing samples. If the Offeror takes exception to the above, the Offeror must describe an alternate methodology that will satisfy the same objectives.

C.5.1.6.4 TRACKING OF SOFTWARE DELIVERABLES

Regardless of the methodology proposed by the Offeror, the Fund requires the following with regards to software deliverables:

- Use of version control software tools that will allow the Fund's project staff to track and audit code as it migrates through the SDLC
- Well-enforced use of migration with each release of code such that it migrates through the following sequence of environments:
  - Development
  - Test / QA
  - Staging
  - Production
- The ability to generate reports that support each migration, the use of which will help ensure that all of the correct modules and configuration files are migrated through each environment

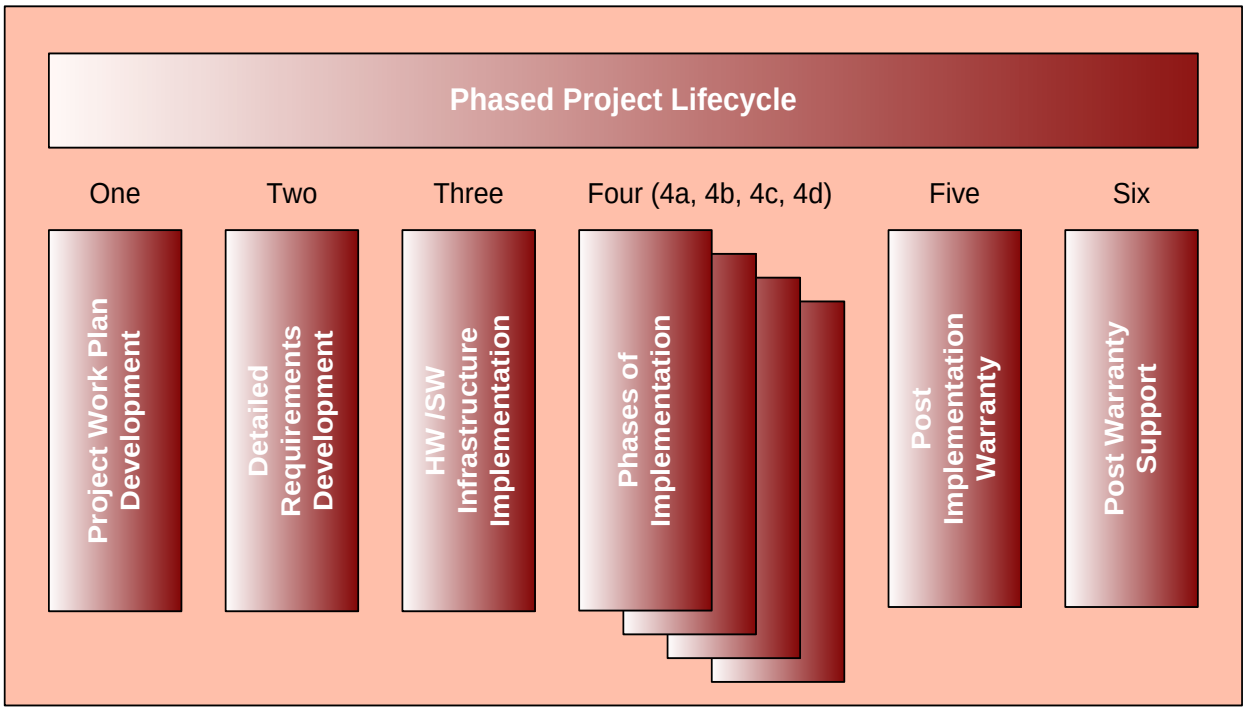
The Offeror's proposal (Artifact I-7, Draft Project Management Plan) should include a description of the process that Offeror uses to ensure that each release of software is complete and correct. Samples of audit reports run from the version control software should be provided with the response. One of the samples should clearly show how the difference in one release of software to the next is identified. Finally, the Fund requires written acknowledgement within the Offeror's response acknowledging the Offeror's understanding of and willingness to comply with the above requirement.

C.5.1.7 Phasing the Project

The Fund is seeking proposed solutions that embrace a phased approach. The Fund seeks to avoid a "big bang" approach in which the entire solution is brought on-line in one cutover. By requiring the Offeror to deliver the solution in phases, the amount of change that must be absorbed by the organization, particularly the system end-users, at any one time can be reduced to manageable levels. The Fund recognizes that such a phased approach will incur the added cost of data bridging efforts in the form of temporary bridging routines needed to keep the legacy system and the new solution synchronized during the period when both systems will be in use.

Therefore, Offerors will provide proposals (Artifact I-12, SDLC Methodology Overview) that will structure the implementation to have several phases. The required Phases are defined by the Fund below:

Figure C-1: Required Project Phasing



Phase 1 - Delivery of a detailed work plan within the period specified in Table C-1in Section C.2– Timing of Major Deliverables. The detailed work plan must include a Transition Plan, an Integration Plan, a Data Migration / Conversion Plan, a preliminary Data Bridging Plan, a Rollout plan, a Training Plan, and a Work Breakdown Structure Plan, including but not limited to narratives, task definitions, schedules, Gantt charts, dependencies, the Fund and Offeror manpower loading, payment points tied to deliverables tied to the work plan, and monthly cash flow projections. This plan will encompass all mandatory project elements and all options authorized to date at that time.

Phase 2 - Delivery of a detailed requirements document, a revised detailed work plan, a top-level Concept of Operations document (described in Section C.5.2.1), and a Development Methodology Overview – End User document (described in Section C.5.2.2). This phase will be completed within the period specified in Table C-1 in Section C.2– Timing of Major Deliverables.

Phase 3 - Including but not limited to implementation of proposed hardware and software infrastructure, i.e., installation and configuration of a network, removal of current desk top PCs and replacement with more-robust standard client PCs (if necessary), upgrade to existing network components and PCs (if they are suitable for re-use), and upgrade/installation of office automation, internal and external e-mail, ECM System and network printers as necessary. This phase will be completed within the period specified in Table C-1in Section C.2– Timing of Major Deliverables.

Phase 4 (comprising at least 4a and 4b) - is left to the Offeror to define in its proposal (Artifact I-13 Draft Functional Rollout Plan). These later project phases will consist of the functional rollout

(including, but not necessarily limited to, Membership and Benefits) of the new line-of-business system, thus replacing all of the Fund's current legacy pension systems. The Offeror must discuss how it plans to phase the remainder of the effort. This discussion must address the rationale for the recommended breakdown of the functional rollout into phases, the reasons for the recommended sequence of the functional rollout, and a top-level schedule indicating expected start and completion dates for each phase. The proposal provided by the Offeror and the ensuing contract shall clearly define all of the elements of each phase and the relationship among phases in terms of schedule and deliverables. Finally, the Fund points out that incorporating a "parallel" phasing strategy (e.g., cutting over and operating under the active member component of the new LOB while still maintaining the same information and conducting the same tasks under the active member component of the legacy system) is not acceptable.

The Fund requires that Phase 4a (i.e., the first functional rollout of the new pension application) include delivery of the required ad hoc query and reporting capability. In this way, "super users" and IT staff will have the early capability to run ad hoc queries, generate reports, and perform all "balancing and reconciliation" activities, thereby achieving a level of self-sufficiency well before final system rollout. In addition, integrated ECM (imaging, workflow and correspondence management) must be rolled out in the first functional rollout phase and all subsequent phases.

Finally, the Fund would prefer that the electronic employer reporting capability (the process by which the Fund will import the biweekly payroll information) be included in the first functional rollout phase (Phase 4a). Once completed, both the old and the new process will be run in parallel until final rollout is completed.

The Fund expects that the Self Service components be rolled-out concurrently with the associated functionality in the LOB. The Fund reserves the right to make self-service functionality available to its users after that functionality has been made available to the internal, LOB users.

Phases 5 and 6 – Are the Post-Implementation Warranty and Post-Warranty Support periods as they are described in Section C.12.2.

In particular, Offerors must discuss in their proposals how the phased transition to the new environment will be accommodated with regard to the Fund's existing Web site. As LOB functionality is rolled out in phases, this new functionality must be reflected in the Fund's Web site. It will be the Offeror's responsibility to suitably integrate the Fund's existing Web functionality with the new LOB functionality for <u>each</u> functional rollout during the phased implementation.

Note that throughout the phased implementation, the solution must maintain terminal emulation capability to provide access to the Fund's application during the phased implementation. To clarify, Offerors are required to ensure that the Fund's staff can perform their work processing with no loss of productivity in:

- The current legacy environment, or
- The new solution environment, or
- Both environments simultaneously.

C.5.1.8 Project Work Plan

The Offeror assumes full responsibility for planning, scheduling, and completing all project tasks. The table below provides a summary of the specific work plans the Offeror is to provide at particular times in the project. The components of the specific plans are described below the table:

Table C-6: Required Project Plans

Plan Name	Delivery	Contents
Initial Plan, Version 1	As part of proposal	High-level plan including options
Initial Plan, Version 2	As part of proposal (Artifact I-10, Initial Project Workplan without Options)	High-level plan without options
Phase 1 Detailed Plan	At time of contract signing (as indicated in Table C-1 in Section C.2)	Initial Plan expanded to include detailed plan of first Phase of the project.
Complete Detailed Plan, Version 1	As indicated in Table C-1 in Section C.2	Phase 1 Detailed Plan expanded to include same level of detail for next six months of the project.
Complete Detailed Plan, Version i	As required	Updated version of to include a rolling quarterly update of the plan.

C.5.1.8.1 Initial Plan

The Offeror must include an initial high level project work plan in its proposal (Artifact I-10, Initial Project Workplan without Options). It must be understood that the high-level plan will subsequently be expanded into a revised, more detailed version of the above work plan to be delivered in two parts that make up the first two contractually required deliverables of the project. At the time of contract execution, the selected Offeror must deliver a completed work plan for the first phase of the project; the detailed plan for the remaining phases of the project must be delivered within the period specified in Table C-1 in Section C.2 – Timing of Major Deliverables. The total work plan will be subject to on-going modification, periodic updating, and "explosion" into greater detail as the project progresses.

In developing their work plans, Offerors must be sensitive to the fact some units may have periods that are periods of high levels of business activity for the Fund.

The high level work plan must include, at a minimum:

1. A Work Breakdown Structure (WBS)
2. Definition of project phases (see C.5.1.7) to include description of the activities within the phase.
3. Definition of tasks that comprise each project activity within a phase, including:
   - Task title

- Task description/narrative
- Task start and end dates
- Effort required in work hours
- Personnel assigned

4. Identification of major project milestones, e.g.:
   - Requirements analysis
   - Hardware installation
   - Software modification
   - Software installation
   - Data conversion
   - Testing
   - Training
   - Acceptance
   - Cutover
   - Description of deliverables, including at a minimum all deliverables called for in Section C.2.

The work plan must clearly identify that the implementation is phased according to the requirements stated in C.5.1.7and indicate the elements included in each project phase. A high-level project schedule based on the target dates stipulated in the RFP (see Table C-1 in Section C.2), presented in a Gantt chart or other suitable format, must be included. Two versions of the completed high-level work plan are required. In the first, the Offeror must include only the mandatory elements of the procurement. In the second, the mandatory portions and all options are to be presented.

C.5.1.8.2 PHASE I, DETAILED PLAN

At the time of contract signing, the Offeror shall provide a detailed work plan for the first phase of the project (see Section C.5.1.7), covering all tasks to be accomplished during that phase. The detailed work plan shall be based on the high level work plan included in the Offeror's proposal (Artifact I-10, Initial Project Work Plan without Options), including any modifications made during contract negotiations. The Fund will review the plan and provide the Offeror with written comments within ten (10) business days of the receipt of the plan. The Offeror will revise the plan to reflect the review and republish the plan within ten (10) business days. This first portion of the complete detailed plan shall guide the execution of project-related work during the first sixty day phase.

C.5.1.8.3 COMPLETE DETAILED PLAN

Within the period specified in Table C-1: Deliverables and Due Dates for Major Deliverables (From Start of Contract)in Section C.2– Timing of Major Deliverables, the Offeror shall provide to the Fund a complete detailed work plan for the entire project. Like the plan for Phase I, the complete detailed work

plan shall be based on the high level work plan included in the Offeror's proposal, including any modifications made during contract negotiations, providing the detailed plan for the upcoming six month period and an outline of the remainder of the project. It will include any options that have been authorized to date at that time. The Fund will review the plan and provide the Offeror with written comments within fifteen (15) business days. The Offeror will revise the plan to reflect the review and republish the plan.

The detailed work plan and schedule will then be updated on a mutually agreed upon schedule, at a minimum: whenever major new phases are undertaken, whenever change orders are initiated, and no less frequently than every month. Each update will ensure that the three-month period from the submission date of the updated plan is presented in detail.

This procurement will ultimately result in a firm, fixed cost contract between the Offeror and the Fund. By “firm, fixed cost contract,” the Fund means that the cost proposed by the Offeror can only change if the scope of the effort changes: specifically, if there is a change in requirements or services described in this RFP. A change in the duration required to meet all of the requirements and provide all of the services described in this RFP, without a change in the scope, will not change the cost of the contract. Therefore, the Fund emphasizes the importance of managing the work plan and schedule.

C.5.2 ASSISTING FUND STAFF AND USERS

The following sections discuss the successful Offeror's responsibilities for assisting the Fund's staff and users throughout the project.

C.5.2.1 Concept of Operations

To improve the end-users' understanding of the look and feel and capabilities to be expected in the new system – i.e., what will be delivered – the Offeror will be required to produce a top-level Concept of Operations (COO) document defined below. The COO is to be delivered within the period specified in Table C-1 in Section C.2– Timing of Major Deliverables.

Following are critical requirements for the COO:

- It may not exceed 25 pages in length. There are two reasons for this limitation. First, the document must be "digestible" by the end-user reader. Second, it forces the narrative to be at the appropriate level, i.e., a 'bird's eye' view of the new solution. For example, the COO may discuss the generation of retirement benefit estimates for members, but it will not discuss the specific retirement options from which the member can select, or the specific rules for calculating service credit.
- It may not include appendices or attachments.
- It must be targeted to, and understandable by, the end-user community (not IT staff).
- It must be delivered at the earliest possible point in the project, i.e., with the detailed work plan and schedule – prior to any requirements or gap analysis sessions.
- The delivery of the COO must be accompanied by Offeror briefings describing the document and walking end-users through it.

Offerors are required to discuss the Concept of Operations in their proposals (Artifact I-12, SDLC Methodology) and to present a recommended approach. In their proposals, Offerors must confirm their commitment to providing the Concept of Operations and establish their understanding of its purposes.

Offerors must also explain in their proposals (Artifact I-12, SDLC Methodology) how they propose to guarantee that requirements set forth in this RFP will be reflected appropriately in the COO – i.e., Offerors must discuss in detail how they will establish the "traceability" of RFP requirements to the COO document.

The COO must explain what the end-users should expect in terms of the new system's functionality and graphical user interface – e.g., processes, calculations, workflow, screens. End-users coming from the old legacy system may have no idea how the new environment will look and behave. The COO must address this topic.

The COO is to describe in end-user-oriented English (without technical terms) how the new solution will operate from the end-user's perspective. It must discuss how particular staff positions will interact with automated features of the new solution. Conversely, it must identify all processes that will continue to be manual in nature after the new solution is fully implemented. Process flow diagrams, as well as appropriate samples of screens, may be helpful and would be encouraged by the Fund, but the page-length limitation cannot be violated.

The COO should describe the high level features (e.g., retrieving images of documents, faxing documents, printing documents and screen images), as well as the major business functions (e.g., enrolling members, issuing refunds, posting service credit purchases, generating retirement benefit estimates) that will be available to the end-users. It should include a discussion of how data will be entered into and accessed from the new system, and how data will be automatically passed from screen to screen for the end-user's convenience.

In their proposals (as an appendix to Artifact I-12, SDLC Methodology), Offerors are required to provide a table of contents of the COO document and describe their approach to meeting this requirement. In addition, appropriate samples should be included in the proposal (as an appendix to Artifact I-12, SDLC Methodology).

C.5.2.2 Development Methodology Overview for End-Users

To improve the user community's understanding of the development process and the effectiveness of the deliverables review and revision cycle when the project is in progress, i.e., the development steps, the Offeror will be required to produce a top-level, Development Methodology Overview (DMO) document defined below. The DMO is to be delivered within the period specified in Table C-1 in Section C.2– Timing of Major Deliverables.

Following are critical requirements for the DMO:

- It may not exceed 25 pages in length. There are two reasons for this limitation. First, the document must be "digestible" by the reader, an end-user. Second, it forces the narrative to be at the appropriate level, i.e., a 'bird's eye' view of the methodology
- It may not include appendices or attachments
- The DMO must be written to, and understandable by, the end-user community (not IT staff)
- It must delivered at the earliest possible point in the project, i.e., with the detailed work plan and schedule – and prior to any requirements or gap analysis sessions
- The delivery of the DMO must be accompanied by Offeror briefings describing the document and walking end-users through it.

Offerors are required to discuss the Development Methodology Overview document in their proposals (Artifact I-12, SDLC Methodology) and to present a recommended approach. In their proposals (Artifact I-12, SDLC Methodology), Offerors must confirm their commitment to providing the Development Methodology Overview document and establish their understanding of its purpose.

The DMO must describe, at a high level, how the system will be defined, designed, tested, and deployed, i.e., a summary of the Offeror's development life cycle for the project – aimed at end-users.

The Offeror must describe in a brief, high level fashion its proposed system development life cycle methodology. This explanation must be aimed at the end-user community. The intricacies of code design, development, and unit testing need not be addressed, since these activities will typically not involve the user. Instead, attention should be focused on the meetings and activities that will involve the end-users and the deliverables that the users will be required to review and approve – and how these areas of user involvement fit into the overall methodology. This part of the DMO will describe what the Fund's

end-user staff must do, what the Offeror must do, and what they must do together. Offerors are encouraged to use diagrams, pictures, and graphics to facilitate end-user understanding.

Offerors are required to provide a table of contents of the document and describe their approach to meeting this requirement in their proposal (as an appendix to Artifact I-12, SDLC Methodology). In addition, appropriate samples should be included in the proposal (as an appendix to Artifact I-12, SDLC Methodology).

C.5.2.3 Offeror Activities Before and After Meetings with Fund Staff

The Fund's ability to support the project is directly related to the amount of time available for the Fund's staff to dedicate to it in addition to their normal duties. The Fund understands that the project cannot be completed without extensive input from our staff. Yet, other demands on their time and energy dictate that their project participation be highly efficient and productive. Therefore, certain procedures and guidelines must be observed when scheduling Fund staff to attend meetings and other project work sessions.

Prior to scheduling formal meetings with the Fund's staff, the Offeror must fulfill the following requirements:

- Ensure that all Offeror staff, no matter when they are introduced into the project, who will participate, have read this RFP and reviewed all of its appendices as well as the Offeror's proposal. Meetings with the Fund's staff should be used to clarify and expand upon the information contained in the RFP, NOT for a general review of its contents. No meeting time should be "wasted" in collecting and reviewing forms and letters, for example, since current forms, letters, and reports have been included in the RFP (see Attachment F-3).
- Prepare a specific, detailed meeting agenda and distribute it to all participants at least three business days prior to the meeting. By providing advance notice of what is to be covered, participants can be better prepared to bring appropriate resource materials and to provide necessary input in an efficient manner. In addition, the need for follow-up meetings will be minimized.
- Attach to the agenda a description of the products and/or objectives that are expected to result from the meeting (e.g., design of a particular new system output, clarification of requirements in RFP Section n). By thus defining the meeting's objectives in advance, discussions should be better focused with less temptation to wander into time-consuming digressions.

The Offeror is required to provide minutes of all meetings held with the Fund's staff. They are to be published within two business days of each meeting.

Further, when legitimate digressions do occur – e.g., discovery of an ambiguity in an RFP requirement that requires resolution – they should be added to the agenda of a subsequent meeting, rather than addressed in an *ad hoc* fashion at the original meeting. In other words, decisions that should be confined to one or two persons should not occupy a roomful of staff simply because they happen to be convened at the time the issue arose. The Offeror will be responsible, via its planning and preparation activities, for ensuring that the Fund's staff time devoted to the project is utilized in the most efficient and productive manner possible.

C.5.2.4 High Level Demonstration of Base Functionality – Conference Room Pilots

The Offeror is required to provide multiple demonstrations (or "conference room pilots' (CRP)) of LOB functionality during the development of the new pension solution. The demonstrations are intended to provide the users with an opportunity to see the full member life cycle from enrollment, through withdrawal and refunds, re-enrollment, refund buy back, retirement, return to work, change of address, beneficiary, plan, etc. The objective is to develop user familiarity and comfort with the new solution – its look and feel, menu and screen navigation, and data entry features (pull-down lists, radio buttons, wizards, etc.) – as early as possible in the project and subsequently as successive detail is built into the solution. By doing so, the Fund anticipates that users will be better able to provide reliable decisions and input relating to system design alternatives.

The initial demonstration need not reflect Fund-specific functionality. A hands-on presentation of the Offeror's base solution will suffice. Note that this means more than showing a series of screens pre-populated with data – the intent is to have a live demonstration from which users can draw inferences about operations, performance, etc. The presentation must include end-to-end transactions showing entry of new data, use of workflow tools, performance of relative calculations, and printed output if applicable. For that reason, the demonstration will be on the production equipment and the database and all transaction files will be of the same size as those with which the Fund works in their current operations. The Offeror should include a suggested set of scenarios for the initial, overall CRP as an attachment to their proposal (as an appendix to Artifact I-12, SDLC Methodology). If selected, the Offeror will work with the Fund's Project Manager to refine the proposed CRP scenario before the completion of Phase 3 of the project. The agreed upon scenario must be executed successfully. In the event the system fails to complete the scenario; the issues must be resolved and the scenario re-demonstrated successfully within five business days.

The initial demonstration should be scheduled as soon as possible in the project, but no later than Phase 3, i.e., the implementation of proposed hardware and software infrastructure. The Offeror will facilitate each session, ensuring that all system users attend the conference room pilot in groups of manageable size.

The demonstration should be repeated during the design / development effort for each functional rollout phase of the new solution. For each phase-related demonstration, the focus must be on the end-to-end business functionality that is to be delivered as part of that project phase.

C.5.3 STANDARD PROJECT MANAGEMENT DELIVERABLES (INTRO)

The Fund understands that Offerors will bring to the project their own project methodologies and standard deliverables. However, the Fund has identified a set of project deliverables that the Offeror must provide. They are described and defined in detail in the following subsections.

C.5.3.1 Requirements Traceability Matrix

To assist the Fund in tracking all project requirements and deliverables, a Requirements Traceability Matrix (RTM) will be maintained by the Offeror. The initial requirements which will populate this RTM are those requirements contained in this RFP. This section discusses the purpose of and detailed requirements for the Requirements Traceability matrix.

In developing the new integrated retirement system for the Fund, requirements will be defined in further detail at every step in the process. Prior to beginning work with the Offeror, a number of steps will have occurred:

- Development of the Request for Proposal
- Issuance of questions by Offerors and preparation of responses by the Fund
- Receipt of the proposal from Offeror by the Fund
- Issuance of questions by the Fund and preparation of responses by Offeror.
- Cost and / or scope negotiations, if appropriate
- Execution of the contract.

The first two phases of the ensuing effort typically constitute project start up and planning, followed by the development of a detailed Requirements Definition. The third phase consists of the implementation of the project's hardware and software infrastructure. (Subsequent phases will include the rollout of user-oriented functionality and enabling technologies.) The Offeror's proposal will have defined a number of processes, activities, and deliverables. Described in this section is a process and product (document) that will be prepared by the Fund and the Offeror as part of the effort to:

- Further, more-precisely define the requirements.
- Provide a trail or "traceability" of requirements to be met – starting from the RFP, going through the proposal, the question-and-answer cycle, and contract negotiations, and culminating with the preparation of the requirements document.
- Provide a common understanding for the "go-forward" activities of subsequent phases, including "what" will be delivered and "when" in the project's evolution it will be delivered.

The product that will be prepared by the Fund and the Offeror to achieve the Fund's objectives will consist of a Requirements Traceability Matrix in the format of a Microsoft Excel workbook or other requirement management system (e.g., JERA) that is mutually agreed to between the Fund and the Offeror. The RTM will consist of several categories corresponding to requirements areas, such as LOB, Technical, Miscellaneous, Software, Option 1, Option 2, etc. The matrix will include eleven columns, the contents of which are described below (and which may be modified if the Fund so desires):

1. **No.** – Sequential unique number, identifying the requirement. They are aggregated by major category (e.g., LOB requirements may be numbered L-1, L-2, etc., technical requirements may be numbered T-1, T-2, etc.). The unique identifier will follow each line item through the project, regardless of how the line items may be reorganized or "shuffled" among the various spreadsheets in the workbook.
2. **Requirement (Description) per Contract Exhibits / RFP** – A summarized description of the requirement.
3. **Source** – Identification of the source of the requirement. The source may be the RFP, the Offeror's proposal, Q&A, BAFO, contract, contract exhibits, etc.; in some cases only one reference is made back to the RFP / proposal / contract, etc.; in others, multiple references are made.
4. **Page / Section** – The location of the requirement in the source.
5. **Phase** – The phase of the project in which the requirement will be delivered per the project plan.
6. **Received Date / Who** – The date that the requirement was delivered to the Fund, and to whom it was delivered.
7. **Accepted Date / Who** – The date that the requirement delivery was accepted by the Fund and by whom it was accepted.
8. **Comments** – Any comments relating to the requirement. Comments will include, among other things, an explanation of what caused a requirement to be removed or added. This must be specific, citing specific conversations which have previously occurred between the Fund and the Offeror, the date and attendees, and the prior document which transmitted this information (including but not limited to meeting minutes, status report, and specific correspondence) to the Fund. As stated elsewhere in this RFP, any agreement between the Fund and the Offeror to eliminate project requirements stated in the RFP, the Offeror's proposal, or the contract must be in writing, executed by both parties.
9. **Test Case** – If applicable, identification of the test case that confirms that the requirement has been satisfied.

Activities on the part of both the Fund and the Offeror related to the traceability issue will include:

- First, the Fund will prepare the matrix that codifies and organizes the requirements of the RFP and negotiated contract. An example of the matrix as it will be delivered to the Offeror by the Fund is shown in Exhibit I herein. The Fund will complete columns 1 (No.), 2 (Requirement Description), 3 (Source) and 4 (Page / Section) and deliver it to the Offeror for review.
- Next the Offeror will review the matrix and verify its accuracy. Any discrepancies or differences in interpretation will be mutually resolved before the next step.
- Then the Offeror will complete columns 5 (Phase of the project in which the Offeror will implement the requirement) and 6 (SOW, the Statement of Work to be prepared by the Offeror which will include the requirement).
- In cases where a function described in the RFP is not "carried" forward, the Offeror will note this by providing a written explanation in the comments column (9) for that function. Further, if there are any new functions that have evolved during the requirements analysis, the Offeror will add them as

appropriate entries at the end of the matrix. An example of the matrix as it is to be completed by the Offeror is provided in Exhibit II.

- The Offeror will then provide the matrix to the Fund for review.
- The Fund's staff will review the matrix – annotating any differences of opinion that they have with respect to the Offeror's completion of the matrix. The annotated matrix will be returned to the Offeror.
- Next, a meeting or series of meetings will be held at which discussions will occur to resolve any differences.
- Then the Fund and the Offeror will update the matrix so that it reflects the agreed upon changes, and it will become part of the deliverables from the Requirements Definition. If appropriate, any changes to schedule and cost will be identified at this time, and a change order created as needed.
- The revised, updated, completed matrix will be provided to the Fund by the Offeror within the period specified in Table C-1in Section C.2– Timing of Major Deliverables. The matrix will provide a more precise reference point for the "go-forward" strategy for the implementation phases.

Columns 7 and 8 will be filled in as portions of the project are completed by the Offeror and delivered to the Fund for review and acceptance. Column 10 will be filled in by the Offeror as test plans, test scenarios, test cases, etc. are developed during the course of the project. Exhibits 1, 2 and 3 on the following pages show three stages in the development of a small portion of a sample RTM

Furthermore, the Offeror will be responsible for tracking and matching project requirements, not only from the RFP (and associated amendments, questions and answers, Offeror's proposal and any amendments thereto) to the design definition, but also through the requirement definition, design, and implementation activities. At any time, should the Fund question how a particular requirement expressed in the RFP / procurement cycle will be addressed in the new system, the Offeror must be able to demonstrate how that requirement was carried forward from the RFP into the proposal, the requirements definition, the system design, and eventually the final implementation.

Table C-7: Requirements Traceability Matrix Example

1 No.	2 Requirement per Contract Exhibits / RFP	3 Source	4 Page / Section	5 Phase	6 SOW	7 Received Date / Who	8 Accepted Date / Who	9 Comments	10 Test Case(s)
L-1	Ability to capture user-defined parameters for calculating employer penalties and interest charges relating to late reports / remittances	RFP	B-1.1.14						
L-2	Ability to capture historical rates and factors with effective dates so that retroactive calculations use the appropriate figures	RFP	B-1.1.14						
L-3	Ability to capture a new employer's plan history (i.e., in previous retirement system) and make it available on-line	RFP	B-1.1.14						

Table C-8: Requirements Traceability Matrix Example with Offeror Entries

1 No.	2 Requirement per Contract Exhibits / RFP	3 Source	4 Page / Section	5 Phase	6 SOW	7 Received Date / Who	8 Accepted Date / Who	9 Comments	10 Test Case(s)
L-1	Ability to capture user-defined parameters for calculating employer penalties and interest charges relating to late reports / remittances	RFP	B-1.1.14	4	6				
L-2	Ability to capture historical rates and factors with effective dates so that retroactive calculations use the appropriate figures	RFP	B-1.1.14	4	6				
L-3	Ability to capture a new employer's plan history (i.e., in previous retirement system)	RFP	B-1.1.14	4	6				

1 No.	2 Requirement per Contract Exhibits / RFP	3 Source	4 Page / Section	5 Phase	6 SOW	7 Received Date / Who	8 Accepted Date / Who	9 Comments	10 Test Case(s)
	and make it available on-line								

Table C-9: Completed Requirements Traceability Matrix Example

1 No.	2 Requirement per Contract Exhibits / RFP	3 Source	4 Page / Section	5 Phase	6 SOW	7 Received Date / Who	8 Accepted Date / Who	9 Comments	10 Test Case(s)
L-1	Ability to capture user-defined parameters for calculating employer penalties and interest charges relating to late reports / remittances	RFP	B-1.1.14	4	6	20070502 PPC	20070516 RK	None	CALC-1, -2, -3, & -8
L-2	Ability to capture historical rates and factors with effective dates so that retroactive calculations use the appropriate figures	RFP	B-1.1.14	4	6	20070502 PPC	20070516 RK	None	CALC-4 & -5
L-3	Ability to capture a new employer's plan history (i.e., in previous retirement system) and make it available on-line	RFP	B-1.1.14	4	6	20070502 PPC	20070516 CLF	Requires collaboration on format of transferred data.	CALC-6, -7, & -8

C.5.3.2 Status Reports and Project Status Meetings

The Offeror will be required to submit regular, written status reports and to facilitate regular project status meetings at a frequency defined by the Fund's Project Manager. The status reports must include separate sections that cover all parallel parts, phases, or aspects that were in progress or had been completed during the reporting period, that will be begun during the next reporting period, and all outstanding issues.

Vendor proposals must contain a sample status report (As an Appendix to Artifact I-7, Draft Project Management Plan).

The Fund understands that, given the project's magnitude, comprehensive status reports may be lengthy and highly detailed. Any status report that exceeds ten (10) pages in length must be accompanied by a one-page management summary.

The final format of the status report will be mutually agreed upon between the Fund and the Offeror within thirty (30) days of the project start date. Offerors should include samples of previously used status reports on other similar projects.

C.5.3.3 Executive Level Reporting

In addition to detailed project status reports, the Offeror will be required to produce a monthly executive level report presenting project summary information targeted at an executive audience (e.g., project sponsors, the Board of Trustees). This report should provide a succinct monthly summary of the project's status against key indicators and furnish decision makers with an analysis tool and communication vehicle for proactive planning and risk mitigation. The objective is to keep executives and sponsors aware of the project's status in order to enable prompt decision making aimed at restoring the project's health when problems develop – e.g., decisions to enlist additional resources, appropriate additional funds, and/or adjust the project's scope.

To the extent possible, executive level reports should make use of graphics to depict the status of the indicators listed above. Such reports are frequently characterized as 'dashboard' or 'critical success factor' reports. Samples should be included in the Offeror's proposal (As an Appendix to Artifact I-7, Draft Project Management Plan).

C.5.3.4 Steering Committee Meeting

Successful projects require constant communication among all parties and well defined structures for maintaining control, reviewing progress, settling disagreements or amending the project based on exigent circumstances. The Steering Committee meeting represents an opportunity to bring together the major stakeholders on a regular basis to accomplish, among other things, the following:

- To monitor the progress of the project as it relates to the overall project work plan
- To facilitate the resolution of disputes or provide additional clarification of issues at the highest level
- To encourage collaboration among all of the participants by reminding them that the project enjoys support at the highest levels within the organization.

Meetings of the Fund's Steering Committee will be scheduled on a regular basis with significant advance notification. The Offeror's Project Manager, and other Offeror senior staff as appropriate, will be required to attend each of these meetings.

As requested by the Fund's Project Manager, the Offeror's Project Manager will regularly be required to deliver a presentation on pertinent topics at the Steering Committee meeting.

Prior to each Steering Committee meeting, the Offeror's Project Manager will meet with the Fund's Project Manager and others as deemed appropriate by the Fund's Project Manager in order to develop the meeting agenda.

No later than two business days after each Steering Committee meeting, minutes of the meeting will be prepared by the Offeror and distributed to all meeting participants and all other project participants who are affected by the meeting's outcome.

C.5.3.5 Requirements Analysis

It is anticipated that the Offeror's early efforts in developing the LOB solution will consist of collaborative efforts between Offeror staff, the Fund's users, and the Fund's IT staff to identify the differences between the Offeror's template solution and the Fund's specific requirements. This portion of the project may be termed GAP analysis, requirements definition, etc. depending upon the Offeror's development methodology. For the purposes of this discussion, it will be called GAP analysis.

Offerors are to take note that the Fund considers it essential that client IT staff who support the legacy system will be actively engaged in the GAP analysis – since they are often, in many areas, equally knowledgeable (but with a different perspective) about both the "as is" current environment and the desired "to be" environment than are the users. This participation must be carefully scheduled.

During the first GAP analysis session on a given topic, the Offeror must excerpt from the Requirements Traceability Matrix / RFP and review with the users and the Fund's IT staff what the Requirements Traceability Matrix / RFP expressed for requirements on that topic.

The RFP requirements will ALWAYS pertain unless, during GAP analysis, the users agree to eliminate an RFP requirement AND a written agreement to that effect is prepared by the Offeror and signed by the Fund's Project Manager. If the Fund agrees to such a "reduction" in requirements during GAP analysis, the Offeror will not be expected to reduce its fixed price. However, the Offeror will, as part of the written agreement to eliminate the requirement, issue the Fund a "credit memo" which estimates the dollar value of the effort that is avoided by virtue of eliminating the requirement. The Fund will be able to apply all such credit memos to offset the cost of future Change Control Requests (CCRs). The Offeror must describe in its proposal (As an Appendix to Artifact I-7, Draft Project Management Plan) how the "credit" would be determined based on the effort avoided due to the reduction in requirements.

If at a later date, the Fund wishes to restore a requirement that it had agreed in writing to eliminate, then that requirement is subject to a CCR. In that event, however, the cost of the CCR cannot exceed the value of the credit memo that was earlier issued by the Offeror for eliminating that requirement.

Offerors must take note of, and confirm in their proposals (Artifact I-7, Draft Project Management Plan), the following: under no circumstances will the Fund's approval of system design and/or specifications abrogate the RFP requirements. The Fund staff invested a great deal of time in developing the RFP

requirements. The Offeror, not the Fund's staff, is responsible for ensuring that all RFP requirements are correctly reflected in Offeror design and/or specification documents. Absent a specific written agreement to eliminate or modify an RFP requirement, signed by the Fund Project Manager, that RFP requirement will remain operative.

The Offeror will provide a sample GAP document template for review and modification by the Fund prior to starting the first GAP session. The GAP document will clearly identify what required functionality exists in the base-LOB application and what functionality has to be added or modified to conform to or satisfy the Fund's requirements. If the GAP documents are silent on a requirement and no written agreement pertaining to eliminating it is authorized, then ALL RFP provisions pertaining to that requirement will stand.

Offerors are required, as a part of their proposal (Artifact I-7, Draft Project Management Plan), to provide a written description of the methodology they use in accomplishing the GAP analysis discussed above. The description should be accompanied by appropriate supporting sample documents (e.g., sample GAP meeting schedule, sample meeting agenda, sample meeting summary). The Fund is particularly interested in understanding the "How To" training given to Offeror's GAP analysis meeting facilitators, providing instructions on issue "parking," issue resolution, etc.

The Fund is also very interested in understanding how during the determination of requirements, the Offeror plans to communicate to the Fund's staff the details of "How?" a requirement will be met (in addition to the "Yes, it's in there," response that leaves the "What it looks like" question unanswered.) What the Fund wishes to avoid is agreement and sign-off on the existence of a function, only to find later that there was great misunderstanding on the part of the Fund's staff. To this end, the Fund's staff will be instructed not to sign off on requirements and specifications that they do not understand.

C.5.3.6 Change Orders, Change Control, and Reporting

This section includes requirements pertaining to change control, change reporting and the management of the integration of changes over the course of the project.

C.5.3.6.1 Change Orders

It is to be anticipated in a project of such magnitude that the Fund will make periodic requests for changes in the scope of the new solution. It is understood that such changes may incur additional costs and possibly delays relative to the project schedule. The Fund's Project Manager will provide all such change requests in writing to the Offeror's Project Manager. The Offeror's Project Manager will respond to such change requests with a written proposal for completing the change. The Offeror's proposal for implementing the change – i.e., the change order – must be delivered to the Fund by the Offeror within ten (10) business days of the Offeror's receipt of the written request for the change. The change order must define the effort involved in implementing the change, the total cost of implementing the change, and the effect, if any, of implementing the change on all pertinent project schedules.

It must be understood by the Offeror that the Fund will not pay for the effort involved in developing the change order. Just as the Offeror bears the cost of developing its proposals in response to this RFP, the Offeror will bear the cost of estimating the cost, time, and manpower required to implement all change requests forthcoming from the Fund during the course of the project. Offerors are cautioned to factor into

their proposed approach, cost, and manpower estimates sufficient resources to respond to the Fund's change requests as they arise throughout the project.

Further, it is pointed out to the Offeror that the responses are to describe the completion of the work requested; a response that describes the cost for an analysis and plan will not be acceptable.

If the Offeror believes that the Fund is requesting a change in scope, it may initiate the change order process. The Offeror is informed that change orders associated with project schedule changes only (no additional scope) will not be considered by the Fund.

C.5.3.6.2 Miscellaneous Change Items

It is the Offeror's responsibility to ensure the "currency" of the LOB application software for any legislation that is in effect at the time of contract signing, regardless of whether or not the legislation existed at the time the Offeror's proposal was submitted.

C.5.3.6.3 Credits for Unneeded Deliverables

If it is determined after contract approval that some deliverables or portions of deliverables are not needed, a credit may be due to the Fund. The Offeror should be prepared to demonstrate how it arrived at the credit amount if the deliverable prices are bundled. The credits should be based on the hourly rates contained in the cost proposal.

C.5.3.6.4 Change Request Reporting

Offerors must provide evidence in their proposals (Artifact I-7, Draft Project Management Plan) that they have in place and will utilize an automated and demonstrable Change Request Reporting (CRR) system for managing and facilitating change requests. That evidence might consist of screen shots and accompanying narrative or whatever other vehicle the Offeror chooses to use.

The Offeror must deliver a detailed Change Control Plan / Methodology for use throughout the project within the period specified in Table C-1in Section C.2– Timing of Major Deliverables.

C.5.3.7 Problem Incident Reports

Offerors must provide evidence in their proposals (Artifact I-14, Problem Incident Reporting Process) that they have in place and will utilize an automated and demonstrable problem incident reporting (PIR) system for managing and facilitating test-related activities as well as production problems. The PIR system can be custom developed or a package – although a commercial off the shelf approach is far more desirable to the Fund. A manual approach using a word-processor, e-mail, or electronic spreadsheet document is not acceptable. The Offeror is required to describe the proposed PIR system in its proposal (Artifact I-14, Problem Incident Reporting Process).

The PIR system must offer at least the following attributes:

- It must provide ready, secure access to the Fund, third party consultant, and the Offeror for the purpose of determining individual problem status as well as general system status and quality trends
- It must define how PIRs will be initiated, uniquely identified, and logged, and by whom

- It must relate each PIR to the particular functional area (e.g., employer reporting, benefit estimates) or appropriate area, e.g., training, documentation, etc.
- It must relate each PIR to the appropriate test variant / scenario / case / data set
- It must record both the expected and actual test result as alphanumeric, numeric or date as appropriate to the PIR
- It must track the status of, complexity of, and priority accorded to each PIR
- It must provide for relating PIRs to change orders when appropriate (in those cases where what was originally thought to be a problem incident is actually determined to be a request for a design change)
- It must track the scheduled fix delivery date
- It must track the fix release number through which the PIR was addressed
- It must provide for tracking efforts to correct the problem and the eventual resolution of the problem incident
- It must include a summary / reporting mechanism as described below
- A manual approach using WORD, e-mail, or Excel documents is not sufficiently robust and is therefore not acceptable; however, the system must be capable of automatically exporting information to those systems.

The desired summary / reporting mechanism should summarize current and "phase-to-date" PIRs and include graphics capabilities showing trends in problem incident reporting and resolution, as well as the existing backlog of PIRs at any point in time and amount of time (maximum, minimum, average) to close out and correct PIRs. Examples of the summary / trend information of interest to the Fund include (at both individual functional or business area levels, delivery phases, as well as the project in total):

- Number of test cases for the phase, cases to execute and cases executed – for the phase and for each LOB area.
- Number of test case data sets for each executed test case.
- Number of executed test cases with one or more PIRs (opened or closed).
- Number of test cases undergoing rework.
- Number of test cases awaiting or undergoing retesting.
- Number of open PIRs at any point in time.
- Number of closed PIRs since the beginning of the project and the beginning of the current phase.
- Number of PIRs opened / closed in the last week/last month.

A detailed listing of the information of interest (not just a summary total), as outlined above, must be made available in printed format. For example, referring to the first item in the list, the PIR system must provide a list of the test cases for the phase, a list of the case to execute and a list of the cases executed.

After contract award, the proposed PIR system will be presented to the Fund in detail within the period specified in Section C-2 Timing of Major Deliverables.

The Offeror will provide training to appropriate the Fund staff as necessary to facilitate their use and understanding of the PIR system. No user testing will proceed until the PIR approach has been presented to, reviewed by, and accepted by the Fund.

In addition, the Offeror will be required to implement a methodology for classifying PIRs. Such methodology should include conducting joint meetings with the Fund (at mutually agreed to intervals) to determine the classification of PIRs. Classifications may be either warranty related, where the Offeror bears the cost of the modification, or non-warranty (i.e., system enhancement, design change, out of scope) related, where the Offeror will provide a cost estimate to the Fund. Offerors must fully describe their methodology for classifying PIRs in their proposals (Artifact I-14, Problem Incident Reporting Process), including representative examples of each of the proposed classes of problems.

At the conclusion of the project, the Offeror must leave with the client a copy of the PIR system and the complete database of all reported problem incidents (including those found and reported by the Offeror test staff as well as those reported by the Fund) for the project. In addition, as part of the leave-behind, Offeror will provide documentation and training for the Fund's administration and IT personnel as appropriate.

C.5.3.8 Risk Management

Risk management includes identification, analysis, planning, tracking, control, and communication of risk areas associated with all project phases. Risk assessment and management are on-going tasks in any project. The Offeror must demonstrate that it can provide a risk management (analysis and mitigation) strategy and methodology that can be used throughout the project to monitor potential risks and to develop mitigation strategies in anticipation of any problems that may arise. Then, based on feedback, assessments can be updated on a continuing basis for the duration of the project. While some risks can be identified from the outset of a project, others will emerge in the course of the project's life cycle.

The risk management strategy and methodology should address how the Offeror proposes to accomplish the following:

- Define measures of success and set targets
- Identify key assumptions
- Identify, analyze, and document risks that threaten the ability to achieve the success targets
- Develop and document mitigation strategies for each identified risk
- Specify tasks to implement the mitigation strategy
- Build consensus on appropriate mitigation strategies
- Establish criteria for escalating risks
- Enlist support for mitigation steps that are outside of the project's direct control
- Monitor and report on risks.

Further, as a part of their response (Artifact I-7, Draft Project Management Plan), the Offeror is required to provide a list of the top ten risks they currently foresee with this project, their assessment of the probability of their occurrence, and the steps they will take to avoid or mitigate those risks.

On a monthly basis the successful Offeror will be required to:

- Conduct formal risk assessments
- Review the status of project risks to ensure that appropriate mitigation strategies are in place
- Report on the project's risk status.

After contract award, the proposed Risk Management Reporting Methodology will be presented to the Fund in detail within the period specified in Table C-1 in Section C.2– Timing of Major Deliverables.

C.5.3.9 Deliverable Repository

During the course of the implementation of the new system, numerous written deliverables will be provided to the Fund by the Offeror. These deliverables can be expected to range from requirements meeting notes, to Offeror's status reports, to operations manuals, etc. Many of these items will be delivered in multiple versions.

The Offeror may choose to deliver project documents in PDF format. However, the Fund requires that all documents also be delivered in the appropriate Microsoft Office suite (current or immediately previous revision) document format with no locks, inhibitors, etc. that restrict the use of track changes or comments. Starting with the response to the RFP and continuing through the last written deliverable on the project, the Offeror is to use MS Project, MS Visio, MS Excel, MS Word, or MS PowerPoint as the file format for all written deliverables.

It is imperative that all versions of all documents delivered at any point in the project and at the end of the project can be identified, located, and accessed by both Offeror and the Fund's staff as needed. Therefore, the Offeror must maintain for the life of the project (and leave it behind upon the completion of the contract) a repository of all written project deliverables in electronic form residing on one of the system servers. The deliverables must be accessible to all project participants, including via remote dial-up or through the Internet.

The deliverables repository must be designed and organized, with appropriate training provided, such that the Fund's staff can efficiently locate and retrieve any document of interest. Write permission to the repository must be suitably restricted. While anyone involved in the project should be able to access all repository items, the ability to add to, delete from, or modify the repository's contents is to be strictly controlled and restricted to authorized Offeror personnel. It will be the Offeror's responsibility, throughout the project until final turnover, to guarantee the continuous correctness and completeness of the repository's contents.

Offerors are to describe in their proposals (Artifact I-7, Draft Project Management Plan):

- Their commitment to satisfying the requirements for the deliverables repository
- Where the repository will be located, how it will be backed up, and how it will be recovered in the event of an equipment failure
- How they propose to organize the repository for ease of use and access
- How they will control the repository to guarantee, on a continuous basis, the correctness and completeness of the repository at any point in time

- Their commitment to produce a document (which itself must be included in the repository) describing the deliverables repository, how it is organized, how items from it can be accessed, and how to recover the repository if necessary
- Their commitment to train the Fund's staff in the use of the repository (including an administrator, managers, and end-users)
- Whether third party tools are utilized (if so, they are to be provided by the Offeror – and their price included in the Offeror's cost proposal).

C.6 DATA

The following sections set forth the Offeror's responsibilities relating to the migration of data from the legacy environment to the new solution as well as the precautions the Offeror is expected to take to ensure the security of the Fund's member and retiree data.

C.6.1 DATA SECURITY

The security of the Fund's member and retiree data must be paramount throughout the execution of this project. The Fund recognizes that access to the real data will be necessary for both data conversion and for debugging of any problematic calculations; however the risk of loss or inappropriate use of personal data, possibly leading to identity theft or other such abuses is high. Therefore, we require that the Offeror provide a discussion in their response (Artifact P-3, Technical Solution Overview) regarding how they propose to manage the security of the Fund's data during the project implementation. That response (Artifact P-3, Technical Solution Overview) should eventually be incorporated into the Security Plan discussed in Section C.12.2.2.

The response (Artifact P-3, Technical Solution Overview) should include at least the following information:

- A complete list of just which data Offeror considers to be personally identifiable information (PII)
- A written commitment that all of the PII will be encrypted when sent off-site, even when sent in e-mail correspondence
- A written commitment that none of the PII will be stored on any local PCs (including Offeror laptops) without specific permission from the Fund's Project Manager – and should that permission be forthcoming, stored only in encrypted format
- A description of just which Offeror staff need access to PII and why

Under no circumstances is the Offeror permitted to remove ANY Fund data from the Fund site. This provision includes a prohibition from accessing the on-site data via an external device connected over the web or otherwise. The Fund recognizes that the eventual solution will involve electronic submission of member data by employers as well as member-initiated, web-based self-service that accesses and alters member data. However, the controls to ensure the inviolability of those transmissions are not yet in place.

C.6.2 DATA CONVERSION AND BRIDGING

The Fund understands that a critical component of the project is the accurate and complete conversion of legacy system data to the new environment.

C.6.2.1 Data Conversion Plan

The Offeror must create a data conversion plan that establishes the conversion environment and outlines strategies for both the automated and manual conversion of data for the new solution. The data conversion plan at a minimum must:

- Identify how the conversion requirements will be confirmed and refined
- Map out how the data elements in the legacy system will be analyzed
- Prepare a data conversion specification
- Identify the approach for manual data conversion, including the design of data collection forms and creation procedures for unreliable legacy system data
- Discuss options for satisfying data required of the LOB solution data model that is not present in the data to be converted (e.g., termination dates that only the employer has)
- Develop data conversion test scripts
- Create the schedule for conversion activities
- Keep the data conversion consistent with the implementation schedule.

The Offeror, with the Fund, will map legacy data to the new solution and design the data conversion flat file extracts from the legacy system, based on file formats defined collaboratively by the Offeror and the Fund. The Fund staff will design, develop, and implement any modifications on the legacy side required to produce the flat file extracts for data bridging or data conversion. The Offeror will have no responsibilities for manual corrections to legacy system data.

As part of the conversion plan, the Offeror must include plans for testing the conversion process, including full reconciliation and balancing procedures for ensuring that all legacy system data was correctly converted and loaded. The conversion plan must elaborate how the integrity and confidentiality of the data will be protected throughout the conversion process.

In addition, the Fund requires that the implementation be accomplished in distinct implementation phases for the line-of-business (LOB) functionality. Thus, not only data conversion, but also data bridging (the regular, periodic "synchronizing" of data between the old and new environments during the period when both environments will be in use), are crucial activities in assuring a successful implementation. Refer to Figure C-2 – Phased Data Conversion and Bridging for an illustration of this process.

A sample data conversion plan should be provided as an appendix to artifact I-7, Draft Project Management Plan.

C.6.2.2 Data Conversion Strategy and Methodology

Offerors must demonstrate in their proposals (Artifact P-3, Technical Solution Overview) that they have in place a strategy and methodology for data conversion and bridging that is comparable to and compatible with their methodology for the design and development of the LOB solution. Although the Fund recognizes that data architects and other technical specialists will execute the conversion and bridging activities, appropriate management and planning disciplines must also be applied to the effort to ensure that:

- There is adequate coordination between the data conversion and bridging effort and the other project components (design, development, testing, training, etc.)
- There is adequate communication about the data conversion and bridging effort with the Fund's managers, business area owners, and users, as well as with the Offeror's other project team members.

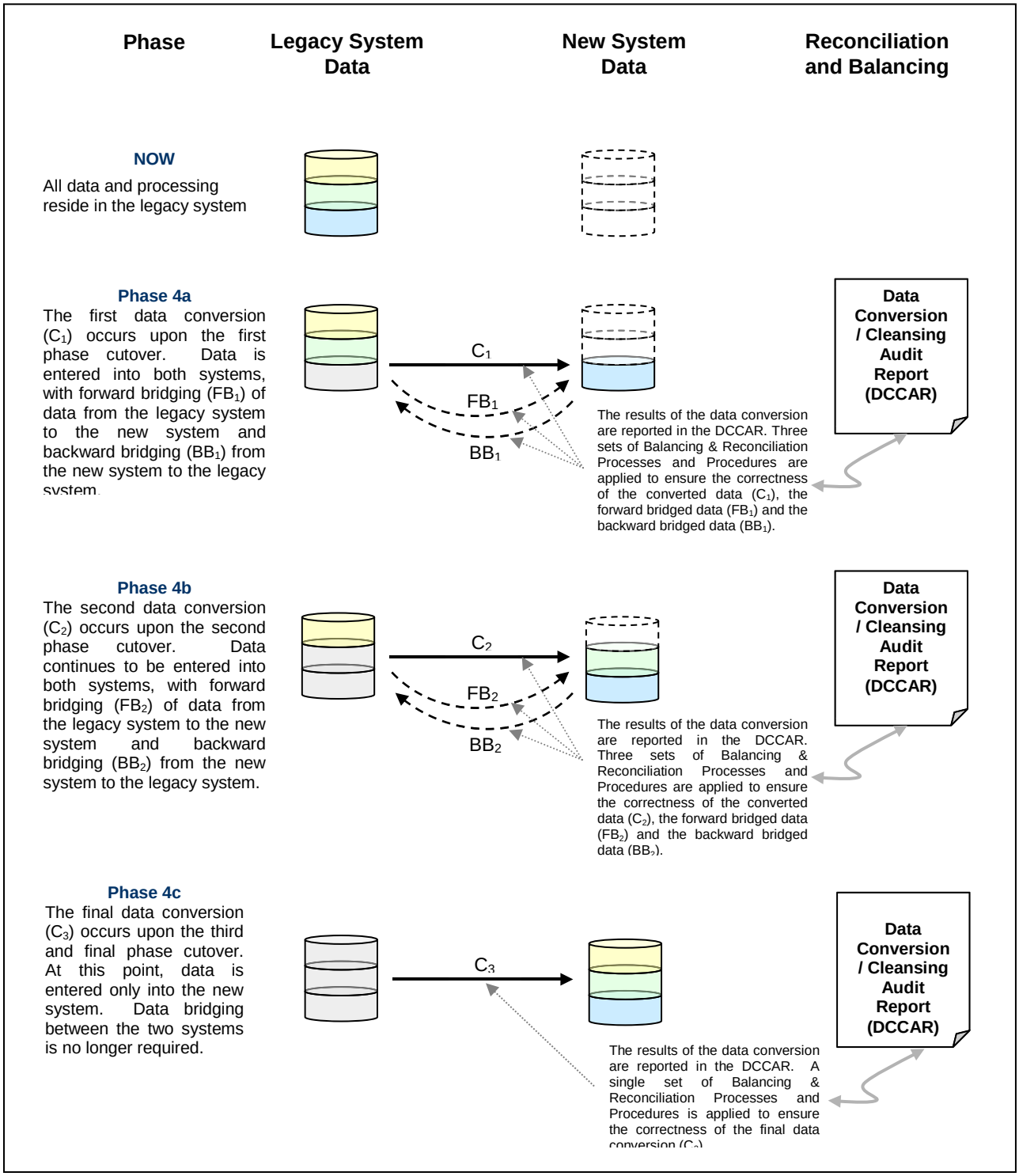
Therefore, Offerors are to include in their proposals (Artifact P-3, Technical Solution Overview) their proposed strategy and methodology for data conversion and bridging. The methodology must embrace the same degree of rigor and formality as the Offeror's system development methodology. The conversion and bridging methodology is required to address, at a minimum, the following areas of concern:

- The planning of the data conversion and bridging effort and how those plans will be communicated to (and approved by) the Fund's managers, business area owners, and users, as well as Offeror development teams; the Fund requires that a detailed, written conversion and bridging plan be prepared for each functional rollout phase.
- When conversion and bridging activities will be scheduled relative to the development effort.
- The roles and responsibilities of Offeror and the Fund's staff (users and IT) in the conversion and bridging effort; such roles and responsibilities must identify the processes and procedures to be used by both the Offeror's staff and the Fund's staff in performing the verification that all data was converted correctly.
- The development of written procedures, methods, and checklists for balancing and reconciling conversion and bridging of data between the legacy environment and the new environment. This includes, in addition to developing the procedures, validating them with the Fund's staff during testing and training, training the Fund's staff in their use during testing, and validating that they are being used properly on an on-going basis. The procedures must provide sufficient controls that Offeror and the Fund can readily discern the validity of any step in the conversion process as well as the validity of the converted data. The procedures must be reviewed and approved by the Fund's auditor and/or CFO prior to their use.
- Techniques to be used in cleaning and converting legacy system data (e.g., data mapping, automated conversion routines, balancing and reconciliation of the converted data at various points throughout the conversion process).
- Development of data bridging routines that will update the new environment with data entered into the old environment and vice versa during the period when both systems will be in use; the methodology should also identify the procedures to be implemented to assure that forward and backward bridged data is correct.
- The possible need for dual data entry.
- Training of users at the time of a functional rollout phase cutover as to what data is to be entered in which system and how.
- Synchronization of the data conversion and bridging effort with the various other aspects of the project (e.g., LOB development, imaging capability, backfile conversion, business process reengineering, organizational restructuring).

- A method to communicate to users what default values were used during conversion and why.
- The strategy to be employed for conversion of images and their indexes.

The figure below is provided to illustrate the data conversion and bridging process as envisioned by the Fund.

Figure C-2: Phased Data Conversion and Bridging



C.6.2.3 Data Cleansing and Conversion Audit Report

In addition to planning and executing the data conversion efforts, the Offeror must also create a Data Cleansing/Conversion Audit Report (DCCAR). This report must be in a format and at a level of detail that is appropriate for the Fund's Executive Management, IT staff, users, and an internal or external auditor to review and approve. This report should contain an overall summary of the effort that was undertaken along with a brief, but complete, listing of all the types of data fixes that were made – both manual and automated.

For each type of data fix effected in each functional rollout of the new solution, the Offeror must set forth in the DCCAR, at a minimum, the following information:

- The problem the data was causing
- The number of occurrences
- The type of fix that was applied (e.g., manual or automated)
- The number of records fixed
- The number of records unable to be fixed
- A list of all records fixed and copies of all "before" and "after" data
- The benefit of having fixed this data problem.

For each functional rollout of the new solution, the data cleansing/conversion audit report should first be delivered in "draft" form for the Fund's review and then based on feedback provided, it should be updated by the Offeror into a formal project deliverable.

C.6.3 Converting and Validating Accounts

In converting and validating member accounts as they are transitioned from the legacy system to the new solution, great care must be taken with regard to accounts that included a refund in the legacy system. These situations can create a potential problem when, after the account has been converted and the new solution is in use, the member has an in progress application for any of a number of transactions that were processed under the legacy system. It will be the Offeror's responsibility to accommodate these situations and to ensure that such problems do not materialize.

In the case of member that included one or more applications started under the legacy system, it is not sufficient simply to convert information from the legacy system. Rather, it is imperative that all detailed data associated with the application under the legacy system be converted and validated. It is possible that such details have not been retained in the legacy system and must be "re-created" for porting to the new solution.

Because certain applications typically involves repaying contributions for specific time periods, as well as paying accrued interest, the following detailed data must be preserved for each application when converting and validating these accounts:

- The date of issuance of the payment request

- The amount of member contributions that were recouped, by pay period
- The amount of earned service credit associated with the amount, by pay period
- The pay periods to which the payments pertained (members may typically request partial, as well as full payments)
- Details of interest postings for any interest that was posted (i.e. interest amounts and posting dates for each interest posting during the period)
- The amount of interest that was accrued (if applicable)
- The actuarial interest rate(s) applicable to the period between the issuance and the cutover to the new solution (varying interest rates are possible) – it is assumed that actuarial interest rates applicable to periods after the cutover are maintained in the new solution database.

The above information (and possibly additional data) must be available in the new solution in order to process certain types of applications. A full set of detailed data must be identified for all historical refunds issued to the member.

In their proposals (Artifact P-3, Technical Solution Overview), Offerors are to state their commitment to fully resolving the in progress application issue prior to porting member data to the new solution.

Offerors' proposals (Artifact P-3, Technical Solution Overview) must demonstrate their understanding of the issue and include a comprehensive approach for addressing the Fund's concerns in this regard. At a minimum, the Offeror's proposed approach is to address:

- How member accounts that include an application under the legacy system will be identified
- Exactly which detailed data must be identified or re-created, and then converted, in order to enable smooth processing of in progress application in the new solution of all historical applications in the legacy system
- How the necessary detailed data will be "mined", created, or re-created for porting to the new solution
- The Offeror's commitment to ensure the correct conversion of such accounts and, in the event an unexpected problem arises, to resolve the problem at no additional cost to the Fund.

C.6.4 Interim Wage and Contribution Reporting

To support the timing and phasing of employers migrating from the current wage and contribution function to the new wage and contribution function, the Offeror must provide two (2) translation capabilities.

As background, there are three possibilities that create a timing issue:

1. An employer has capability in place to provide wage and contribution reporting in the required format at the required time. *No conversion or translation software is needed, in this case.*

2. An employer does not have the capability in place at the required time; thus the Fund must have translation software available that converts from the “old” format, to the “new” wage and contribution format.
3. An employer has the new format in place, but the Fund has not yet implemented the “new” format; thus the Fund must have translation software available that converts from the “new” format to the “old” wage and contribution format.

The Offeror must provide translation capabilities to support the examples cited above. This includes software to be executed by the Fund’s operations staff; software source code, operational documentation, and applications documentation must also be provided.

C.7 PROJECT STAFFING

In addition to requiring the project staffing plan described below, the Fund has a number of other project staff-related requirements as indicated in the sections that follow.

C.7.1 PROJECT STAFFING PLAN

The Offeror must include in its proposal a preliminary project staffing plan. This plan must lay out the reporting structure of the Offeror's team that will be assigned to the effort and illustrate how this reporting structure fits into the Offeror's overall organizational structure.

The staffing plan must include estimates of the manpower loading of project phases, broken out by staff category (including but not limited to managers, supervisors, analysts, programmers, users, trainers, and subject matter experts), differentiated by Offeror (prime contractor) staff, subcontractor staff, and the Fund's staff. In a second presentation, manpower loading must be estimated by staff category by month/quarter/year for the duration of the project. The staffing plan is to include appropriate totals so that the Fund can identify total hours to be expended, per phase and for the entire project, by Offeror staff and (separately) by the Fund's staff – i.e., subtotaled by Offeror and by the Fund and totaled across the project.

The Fund is interested in how the Offeror proposes to accommodate personnel problems should they arise. The Offeror must include in its project staffing plan a description of the steps that will be taken should it become necessary to replace personnel assigned to the effort due to illness, termination of employment, disciplinary problems, by the Fund's request or similar situations.

C.7.2 ALL PERSONNEL

All staff members and subcontractor staff members assigned to the project who may interface with the Fund's staff must have read both the RFP and the Offeror's business proposal, as well as any clarifications to the business proposal, to gain an overall understanding of the project and its objectives, prior to interacting with any member of the Fund's staff. Signed and dated certifications that Offeror staff members have read the above documents must be kept on file and may be requested by the Fund for review. Under no circumstances will such an initial familiarization with the RFP, project objectives, current operating environment, desired functionality or other project objectives or requirements be provided by the Fund's staff members.

And because personnel should be familiar with the contents of the RFP, after award of the contract to the Offeror, it will be the Offeror's responsibility, prior to requesting any material, to review the RFP and its appendices first. If after reviewing that material, samples of any forms, letters, reports, procedures, etc. are found not to be in the appendices, then the Offeror will request them from the Fund's staff.

C.7.3 PROJECT MANAGER

The Offeror's proposed Project Manager must be assigned to the project full time, and his/her duties must be focused exclusively on the management and coordination of this project. He/she will be the primary on-site customer liaison, responsible for coordination, scheduling, delivery of a quality work product, and

resolution of issues. He/she must have no responsibilities relating to design, development, testing, or training. Nor may he/she work on projects for other customers of the Offeror. The Project Manager will be required to be on-site at least 80% of the time, i.e., at least four (4) days per week on average. He/she will be responsible for working closely with the Fund's designated Project Manager, generally on a daily basis, either in person or via telephone and/or e-mail.

The Offeror must agree that its proposed Project Manager will remain continuously assigned to the project (except in the case of serious illness, death, or termination of employment – or with the Fund's approval) for the duration of the project If, for some acceptable reason, the Project Manager must be replaced, the Fund reserves the right to interview and approve the candidate proposed by the Offeror as a replacement.

The Offeror's Project Manager is to be authorized and empowered by the Offeror to make binding commitments to the Fund relating to the project and the Offeror's scope of activities (but not necessarily relating to the terms and conditions of the contract between the Fund and the Offeror's firm).

C.7.4 KEY PERSONNEL

Key personnel must be identified in the staffing plan, and the Offeror must commit that these staff members will not be reassigned for of the duration of that part of the project for which they are responsible (i.e., should the documentation coordinator be identified as one of the key personnel, that individual cannot be reassigned until documentation planning and development has been underway for at least a year) without the Fund's prior written agreement. At a minimum, key personnel to be identified include the Project Manager (see discussion below), the lead analyst or Deputy Project Manager, and at least five (5) additional senior full-time staff members.

The Offeror must agree in its proposal that it will pay to the Fund a penalty of $50,000 should it remove from the project any of the five (5) key staff members identified above or any other staff member who was more than 50% dedicated to the Fund's project, except in the case of staff rollover described above. This penalty will be paid to the Fund no later than five business days after the last day that the staff member in question works on the project.

For all key personnel being proposed to the Fund, the Offeror must provide a complete resume that also identifies all other projects / procurements on which the same staff members are currently working and / or for which the same staff members are being proposed. Further, the Offeror must describe its approach for resolving the situation wherein, if it is awarded the Fund's project (and possibly another(s) for which the staff member is also proposed), it plans to resolve the resulting staffing conflict.

The Offeror must provide a list of all its active retirement projects (development and implementation) that are ongoing at the time the proposal is submitted to the Fund and describe its approach for supporting this project in view of those prior commitments.

C.7.5 REPLACEMENT OF PERSONNEL

The Offeror's staff volatility index must be provided in the proposal, i.e., percent turnover over the past three (3) years and how that number is calculated. This volatility index should be provided both for the entire company and for three (3) referenced public employees' or teachers' retirement system implementation projects.

The skills of the replacement individual for any staff member who is removed from or leaves the project for any reason must match or exceed the replaced staff member in terms of skill level, experience, and time with the Offeror. The Fund reserves the right to approve/reject the replacement prior to assignment as well as at any time during the project. (Such right of rejection will not be exercised unreasonably by the Fund.)

Further, any replacement (planned or otherwise) not occasioned by illness or sudden death must be assigned at least four weeks prior to reassignment of the staff member being replaced in order that a smooth, effective transition / transfer can occur. In such an event, a transition / transfer plan must be provided to the Fund in writing two weeks prior to the start of the transition. In their proposal, Offerors must include a sample of such transition plans.

C.7.6 THE FUND'S PERSONNEL

The Fund believes that one of the keys to a successful system implementation is the collaboration between the Offeror selected to provide the new pension solution and the Fund's staff. The Offeror brings its knowledge of the product being implemented, its general knowledge of pension administration, and the experience it has gained from previous implementation projects to this project. The Fund's staff brings its Fund-specific experience and knowledge of the Fund's needs to the project. This combination provides the optimal environment for a successful implementation project. That said, it is important to point out that, other than the Fund's assistant project manager, all other staff members working on this project will be sharing their time between the project and their day-to-day activities of providing pension administration services to the membership of the Fund. As stated above, in Section A.3.14, the Offeror can assume that Fund's subject matter experts will be available to the project, no more than 60% of the time. It will therefore be imperative that the planning of the project take into account the availability of the Fund's resources. The Fund also realizes the futility of long-term detailed planning (i.e., the Design Review for Service Purchase will be November 7, 2017). As such, the Fund suggests that the project plan, at any time, be a detailed plan for the upcoming three months and a higher-level plan beyond the upcoming three months. Toward the end of each month, the plan will be updated so that the then third future month be planned in detail. In that way, the Fund can ensure that key resources will be available at the time they are needed. The Offeror should address the ongoing planning process in Artifact I-5, Draft Project Staffing Plan, and make any suggestions as to how to best use the Fund's resources.

Offeror should respond to Section C.7 of this RFP using two artifacts: Artifact I-5, Draft Project Staffing Plan and Artifact I-6, Draft Project Staffing Plan Tables. All narrative responses should be provided in Artifact I-5, and tabular responses to the manpower estimates discussed in Section C.7.1, in Artifact I-6. A template for Artifact I-6 is provided as attachment G-12.

C.8 DOCUMENTATION (INTRO)

As a goal, the system provided by the Offeror should be so easy to use, so self-explanatory, so intuitive that little or no documentation is necessary. However, laudable as that goal may be, the Fund requires that the Offeror provide two types of documentation for the new pension administration system:

- User documentation, including electronic help
- System administration documentation including material for both business analysts who need to reconfigure a function and IT staff who need to reconfigure/maintain/support the system.

Both types of documentation (user and system) must document not just the proposer-provided Line of Business solution, but also, at the appropriate level (i.e., user or system administration – or both), the use and/or interface to systems with which the LOB solution is integrated. For example, as noted in Section B.4.3, the Fund currently has Xerox Docushare Image Management technology solution. The standalone use and administration of that solution in the Fund's current business and operating environment is well documented and understood. However, once the imaging solution is integrated into the LOB, the user steps involved in the retrieval and viewing of a member / retiree's imaged record or the administration steps involved in image archive backup and recovery may change. The proposer-supplied user and system administration documentation must therefore include documentation of the imaging solution in the context of the LOB solution.

The required documentation is discussed in the sections that follow.

C.8.1 USER DOCUMENTATION

The most important piece of user documentation associated with the new solution is described below as the Work Process Manual. But that is not all of the user documentation that must be delivered as part of the system. Below the Fund documents a minimal set of requirements for user-oriented documentation for the new solution.

C.8.1.1 Work Process Manual

To augment the user work process training effort, the Offeror will be required to produce a hard copy Work Process Manual and a corresponding on-line help facility (see below) to assist the users in processing work with the new solution. The manual should be organized to correspond with the work processes for which each user is responsible. Planning for the manual and help facility should start at the beginning of the requirements definition effort. The manual must reflect the 'as built' nature of the system, and not the as defined or as designed. It must include an index as well as a table of contents.

The Work Process Manual will address all manual, as well as automated, work processes in the new environment. As a representative example of particular interest to the Fund, the Offeror is responsible for establishing and documenting appropriate procedures for the issuance of "manual" and "one-of" checks. These "manual check" procedures must explicitly address the following topics:

- How to issue a "manual" or "one-time" check, keeping in mind that only persons with appropriate roles and permissions are authorized to issue "manual" and "one-time" checks
- How to ensure that all "manual" and "one-time" checks are subjected to review and approval by a person different from the person who created the checks and having appropriate permissions to do so
- How to identify every "manual" and "one-time" check as either an original or a replacement check
- How to collect all necessary "manual" check information, including the number of the check, the amount of the check, tax withholding amounts, other deduction amounts, the fund from which the check was issued, and the type of the check (benefit or refund, original or replacement) for purposes of making the appropriate general ledger entry
- How to view all "manual" and "one-time" checks, which are recorded in check number sequence in a single location for easy access
- How to appropriately post all "manual" and "one-time" checks so that they will be linked to the recipient in the pension solution, including ensuring that the issue date in the solution is the check's true issue date (not necessarily the posting date)
- How to access a list of all outstanding "manual" and "one-time" checks which includes all "manual" and "one-time" checks that have been issued but not yet posted to the pension solution

Other manual or quasi-manual processes / procedures that must be developed by the Offeror and addressed in detail in the Work Process Manual include, but are not limited to:

- Procedures for the processing of "manual" contribution payments, ensuring that different employees are responsible for preparing the deposit, posting to the pension solution, and posting to the cash receipts ledger. The Offeror must establish and document procedures for depositing and tracking contribution payments that are not accompanied with the necessary paperwork to identify the member accounts to which they pertain, including procedures for accurately posting the contribution to member accounts in the pension system when the paperwork later becomes available.
- A procedure for reconciling the Fund's checking accounts, including confirmation of the accuracy of the outstanding checks report. The reconciliation process must include "manually" generated checks.
- Procedures, for all plans / funds, for reconciling member and employer reserves as indicated in the pension solution database against the general ledger reserve balances for same.
- Procedures by which the Fund's staff can identify the source of all automatic computer generated entries against the general ledger.
- Procedures for reconciling dual general ledgers if separate general ledgers are maintained for calendar year and fiscal year reporting or if there is the ability to display information in both modes.
- Procedures for periodically loading actuarial tables, approved by the system's actuary, for accurately calculating the future cost of benefits and employer reserve charges.

In addition to documenting all steps to accomplish the processing of work, the Work Process Manual should make appropriate references to and reflect both automated and "manual" provisions designed to ensure the proper segregation of duties for internal security and control purposes according to accepted industry standards and best practices as described by the AICPA and COBIT. Examples include:

ensuring that a user cannot update his or her own account, ensuring that account reconciliation is performed by someone other than the person responsible for general ledger postings, ensuring supervisor review of account reconciliations. While it is the Fund's responsibility to implement the recommended segregation of duties, the Offeror must develop the procedures and describe such segregation processes in terms of roles and work processes.

In addition to a detailed Table of Contents, the Work Process Manual must include a detailed, indented index to assist the user in locating the information of interest.

C.8.1.2 Work Process On-Line Help Facility

The on-line help facility must reflect the "as-built" nature of the system, and not the as-defined or as-designed. The on-line help facility envisioned by the Fund should operate much like Microsoft Word's Word Help with its "Search for:" help assistance. A field should be provided near the top of each system screen into which the user can enter a question (e.g., "How do I reprint a member's annual statement?") or a series of key words (e.g., "annual statement reprint"). The help facility should respond with a list of likely work processes / sub-processes from which the user can select. When the user selects an item from the list, the appropriate excerpt from the Work Process Manual should be displayed.

At the same time, the user should have access to online help from the Fund's website, from which they would download and / or play instructional videos, view interactive "How To" sessions, etc. The help available, while all drawn from the same library of help text (so that a user's question will get an answer from the same source as a member's question), should also be configurable so that a member of the Fund's staff has access to and obtains more information than does a member.

The on-line help facility must make extensive use of the screen-based help technology available today, e.g., providing a definition of a screen element, field, or control in the form of a "tip," as well as text that offers assistance to the user in answering "What do I do here?" Such on-line contextual help must also provide the user with the ability to step back from the individual screen element and provide help on the entire screen and back a step further to the process in which the user is currently involved. As a further aid to understanding the process, the system must also provide access to on-line tutorials (both video and text) that allow the user to learn on the job and provide step-by-step task guidance, especially for those tasks that seldom need to be executed and are therefore not engrained in the users' memory.

The Offeror's proposal (Artifact P-3, Technical Solution Overview) must describe the method and tools provided within the solution to ensure that on-line help, the context sensitive help, and any hardcopy help manuals and training materials are kept in synch. The solution delivery must include training on the appropriate use of these tools to keep all help up to date as changes are made to the solution after rollout.

With the exception of the videos described above, the proposer is also responsible for populating the on-line and context-sensitive help with the appropriate definitions and text. Such material must meet the Fund's standards for style and "branding" that exists when said tools are developed.

All forms of on-line help, including the context-sensitive form and the on-line tutorials must provide the capability for the proposer and the Fund to augment the actual text or video with links to the relevant rules and policies in relationship to the context – and to change or update those links as necessary.

Because the capabilities of the on-line Help facility may influence the design of the solution's user interface, it is important to the Fund that the on-line help system be demonstrated as part of the High

Level Demonstration of Base Functionality described in Section C.5.2.4. This demonstration should include instances of how a user might drill down from general to specific help, access references to pertinent statutes or case law, and use context-specific help.

In addition to including standard on-line help the Fund would prefer a more comprehensive Knowledge Management Repository. In the conduct of its day-to-day business affairs, the Fund's staff must remain cognizant of several business "drivers" which dictate the services and information which the Fund provides to its membership. Those drivers include, but are not limited to:

- State statutes
- Local administrative provisions
- Federal law and regulations
- Fund administrative rules
- Fund Member or Employer Handbooks
- Fund procedures
- Existing manuals
- Various forms and instructions.

The Offeror is required to detail in the proposal (Artifact P-3, Technical Solution Overview) its recommended approach to providing a repository capability as described above. The Offeror must include a description of routine maintenance requirements for the repository. The Fund would also welcome Offerors' suggestions as to how to enhance this capability in order to make it more responsive to the needs of the Fund's staff members.

C.8.1.3 Delivery of Work Process Manual and On-Line Help

Both the Work Process Manual and the on-line help facility must be delivered in final draft form at least three weeks prior to the time of each functional cutover. The Fund will review the material and respond with comments and corrections in timely fashion. Upon receipt of those comments, at least one week prior to cutover, the corrected material, accompanied by an addendum describing all changes that have occurred since the distribution of the original deliverables, must be provided.

Similarly, a working draft of both hardcopy and on-line help must be available at the beginning of User Acceptance testing so that those Fund staff responsible for testing the applications will have access to the help facilities during their testing.

C.8.1.4 ECM User Documentation

In support of the imaging and workflow training program, the Offeror must agree to prepare and deliver the following ECM-specific documentation:

- User documentation for the stand-alone electronic file cabinet capability
- User documentation covering the use of tools such as annotation, etc., within the imaging viewer

- User documentation covering any user-accessible capabilities of the Print Archive system such as retrieval, viewing and annotation
- Imaging and indexing software end-user procedures manual(s).

C.8.1.5 ECM Operations Manual

A key criterion for success of this effort is the on-going "Day-Forward" aspect with respect to new, incoming documents that are received by the Fund – both prior to and after the implementation of the new LOB application.

With the implementation of the new solution, the Fund's procedures and processes relating to incoming correspondence and documents will significantly change.

Historically, hard copy documents received in the mail have been identified and sorted, distributed to appropriate staff for action, and subsequently scanned along with any response generated by the Fund – i.e., back-end scanning. Whenever it later became necessary to refer to the same documents, they were retrieved were retrieved and viewed on the staff members' workstation screens.

In the new environment, incoming correspondence and documents will be identified, sorted, then scanned and indexed. The hard copy will be filed and, except for unusual circumstances, will not have to be retrieved later. Instead, the initial scanning and indexing process will place the images in the member's / retiree's / beneficiary's electronic folder and then trigger appropriate workflow streams – i.e., front-end scanning. The images will be 'linked' to automatically generated 'work packets' that will appear in the work queues of staff members. When staff members retrieve the work packets from their queues to process the work, the images will be available for viewing at the staff members' desktop workstations. Document images will be accessible to multiple users at the same time. Thus, a single piece of correspondence can trigger multiple workflow instances, and multiple users can work with the document simultaneously. If the Fund generates any correspondence in the process, that correspondence will be automatically imaged and indexed and added to the member's / retiree's / beneficiary's electronic file folder.

Therefore, there is a need to develop a new "model" for how incoming and outgoing correspondence and documents will be handled and processed in the future environment – a model that integrates the imaging and workflow capabilities of the new solution, as well as its automatic correspondence generation features, with the still necessary "manual" chores of opening and sorting the mail and filing the hard copy. The new model must also accommodate the rare occasion when hard copy must be retrieved from the files during the retention period and later re-filed.

The Offeror will be responsible for defining and carefully documenting this new document handling / processing model.

The Offeror is required to provide a detailed approach / strategy document explaining how incoming documents will be handled both before and after the implementation of the new solution. Offerors are to present their methodology for addressing this "Day-Forward" issue in their proposal (Artifact P-2, Business-Focused Pension Solution Overview) in adequate detail to demonstrate a complete understanding of the situation. Further, they must pose in their proposal (Artifact P-2, Business-Focused

Pension Solution Overview) a solution that is simple, straightforward, and easy to control. Topics such as the following must be included:

- Sorting significant correspondence out of the bulk of incoming mail
- Preparing the correspondence for scanning
- Scanning and indexing the significant correspondence, ensuring that the images are placed in the correct electronic file folder
- Handling new documents received for a new person
- Handling documents that are incomplete
- Handling documents that are not Fund related
- Handling documents that require a new folder/sub-folder to be created.
- Handling new documents received for a person whose record is already involved in another process (e.g., an address change for someone whose retirement application is in process)
- Check handling, birth certificates and legal documents.

C.8.2 Administrative and System Documentation

The sections below define the documentation required for system administrators, those who will reconfigure components of the solution and those who will support it.

C.8.2.1 General System Administration Documentation

System documentation that must be provided includes, but is by no means limited to:

- Backup and recovery procedures (complete with recommended schedule)
- Error code descriptions accompanied by a discussion of how to work around or recover from the particular error condition.
- System tuning discussion, providing the Fund's personnel with the information they need to adjust performance

C.8.2.2 General System Configuration Documentation

System configuration documentation that must be provided includes, but is by no means limited to:

- Documentation on all aspects of pension administration system configuration such as changing of tax codes, addition of new plans, etc.
- Documentation on aspects of the system that are configurable but other than pension administration system-specific (e.g., frequency of backups)

C.8.2.3 System Maintenance and Operations Documentation

The Offeror is required to provide both hard- and electronic copies of all documentation required by the Fund's staff or their designee (such as the Offeror or another third party) to maintain and operate the system following the turnover of the responsibility of those operations from the Offeror staff to the Fund.

C.8.2.4 ECM-Specific Technical Documentation

In support of the imaging and workflow training program, the Offeror must agree to prepare and deliver the following products:

- Operational system documentation
- System administrator operations manual
- Imaging software technical procedures manual(s)
- Workflow processes and procedures
- Operations documentation relating to normal processing, exception processing, and abort conditions; if a procedure or program aborts, the operational documentation should list the steps necessary to recover and restart / rerun
- All source code for any Offeror-developed applications, middleware, communications capability, or interfaces
- Hardware maintenance and support documentation
- Imaging and indexing software end-user procedures manual(s).

C.8.2.5 ECM IT Operational and Maintenance Manual

The Fund requires that the successful Offeror produce a formal IT Operational and Maintenance Manual. This deliverable will contain all necessary procedures related to how Fund IT staff shall operate and maintain the ECM system. Topics such as the following must be included in this document:

- Installation, upgrade, and maintenance of ECM software
- Configuration / optimization of ECM software
- Configuration and optimization of the database
- Administration of security
- Administration of system backup, archive and restore
- Scanning equipment maintenance

- Correction of image / index corruption issues
- Creation of new document classes – and possibly new workflows
- Creation of new reports to be captured in the print archive.

C.9 TRAINING AND KNOWLEDGE TRANSFER (INTRO)

The Fund views the material upon which the proposer must provide training as a continuum, ranging from high level user familiarization material to detailed IT-level system administration training. Similarly, the Fund community is another continuum ranging from supervisory level casual users to IT developers and support and administration personnel. Providing a perfect match between the material provided and the community to be trained is a difficult task. In an attempt to apply some order to that task, the Fund believes that the proposer must provide three comprehensive training programs, addressing the respective training needs of:

1. Fund users (Fund business staff and managers) including:
   a. Staff involved in System Requirements and Design
   b. Staff involved in User Acceptance Testing (UAT)
   c. The general user population and
   d. Staff providing user-managed system administration
2. The Fund's business analysts and technical staff (operations staff, programmers, data / technical team)

As part of the continuum mentioned above, the training programs for the Fund's staff will encompass all platforms, applications, and environments included in the proposed solution. In addition, any changes to use or administration of existing Fund applications (e.g., Imaging and Accounting systems) must also be incorporated into the Offeror's-provided training. All three of the training programs will be presented in a phased manner, i.e., not all at the beginning or at the end of the project, but corresponding to the phasing of the overall project.

The format of the training to be provided to both of the Fund's groups (users and technical staff) must include, in addition to classroom instruction, training workshops / laboratories that offer participants hands-on experience with all of the facets of the new solution pertaining to their job duties

On-site training is to be provided by the Offeror in all aspects of the new system. All trainers are to be certified as trainers by the developer of any of the third party products on which the Fund's staff is being trained. This includes but is not limited to: office automation, relational database management system, CASE tools, and third party development tools. This training can be accomplished by Offeror staff or subcontractor staff. However, while the Fund recognizes that subcontractors will provide some training services, the Offeror (prime contractor) will be solely responsible for the quality and timely completion of all training activities.

Regardless of the format and schedule for training (of all types) proposed by the Offeror, the Fund expects that the Offeror (or its subcontractor[s]) will conduct all training sessions. A "train-the-trainer" approach is <u>not</u> acceptable either related to the system development life cycle or for end-user training. Offerors must develop their training plans and price their training services accordingly. Training is to be scheduled such that, in general, no more than 20% of staff of an organizational unit is away from work at any given time.

Under no circumstances will any training session be conducted on any of the topics pertinent to the Offeror provided solution or any of its components without hardcopy reference material, a workbook, or a user guide supplied in sufficient number and in sufficient detail for those to be trained. Such reference or training material must thoroughly cover the subject matter and be written at the appropriate level for the intended audience. In addition, such material will be provided to the Fund in draft form for review and feedback to be incorporated by the Offeror prior to the conduct of any related training sessions.

The Offeror must provide sufficient copies of all training materials for all trainees plus a reserve equal to 5% of the total number of copies. The Offeror must provide all electronic source documents, graphics, and the like used in the development and presentation of all aspects of training. All training materials may be copied by the Fund without restriction. Offerors must develop their training plan and price their training services accordingly.

The Offeror must specify the expected performance and the expected outcomes of each type of training to be provided. In conjunction with this, the Offeror must develop evaluation tools to determine whether the training efforts produced the expected results. The evaluation must consist of various tests administered to trainees at each training session. This evaluation tool will be used to identify weaknesses of the training program and specific revisions that need to be made. Information regarding the actual training results must be provided in an evaluation analysis report. The trainers for all training efforts must utilize the evaluation survey tool.

The Fund will provide a training contact person who will work with the Offeror to coordinate training activities. The Offeror will provide the Fund with a list of training classes, their duration, their intended "audience," and student capacity. The Fund and the Offeror will jointly determine the training dates and schedule the Fund's staff and facilities.

The following subsections define the specific training requirements for users versus technical staff versus employers.

C.9.1 USER TRAINING

As noted in the previous section, user training has four major audiences or constituencies, any one of which overlaps at least one other:

- Those users and business analysts involved in System Requirements and Design sessions, many of whom will need to be taught the concepts of Joint Application Design, etc.
- Those users involved in User Acceptance Testing (UAT) who require familiarity with both the application and testing activities, such as methodologies, PIR reporting, and regression testing
- The general population of users and managers who do not require familiarity with testing activities
- Staff (possibly the business analysts) who will be providing post-installation, user-managed system administration if there are such tasks in the solution provided.

Since the four constituencies require separate (different material and different timing) training, separate training sessions are to be delivered to each. Appropriate training is to be delivered to each constituency for each of the functional rollout phases. Finally, training is to be delivered just in time (JIT) so that the material is still fresh when the users must put what they learned to use.

Offerors may assume that the Fund's staff is experienced with the Microsoft Windows environment and, thus, will require no training in basic Windows operation.

C.9.1.1 Training in the Development Methodology

A critical training requirement is to educate the Fund's staff members in the process that will be used to define the new system's requirements, design the solution, and implement it. The Fund's users in particular have limited familiarity with system development life cycle methodologies including, but not limited to, design "workshops", Joint Requirements Planning (JRP) sessions, and Joint Application Development (JAD) sessions. Yet their input is essential, and the design issues they approve early in the project will be the foundation on which subsequent activities will be based later in the project.

From the point of view of obtaining a solution that meets or exceeds the Fund's requirements, it is essential that the Fund's staff members who participate in JRP and JAD sessions understand the importance of their sign off on the specifications and designs that result from those sessions. This training must emphasize to staff members that their signatures represent the Fund's commitment that the specifications are complete and correct.

The proposer must include in its proposal (Artifact I-4, Draft Training Plan) a commitment to provide a series of orientation training sessions for all of the Fund's staff members who will participate in the project:

- The first orientation session must occur within the first two months of the project
- The second must occur prior to the start of any requirements definition / gap analysis
- The third must occur prior to the start of the design effort.
- The next must occur at the start of for the first functional rollout phase of the project.

With particular regard to development methodology training, the user training program must be coordinated with the preparation of, and addressing the contents of, the Development Methodology Overview – End User (DMO) document to be delivered by the proposer (see Section C.5.2.2). These development methodology training sessions must each involve no more than 15 of the Fund's participants.

The topics to be covered in each development methodology training session include:

- An overview of the process – how the project will progress from the RFP to gap analysis and requirements definition, through design, and implementation via various steps, including but not limited to, joint applications development sessions, joint requirements planning sessions, prototyping sessions, conference room pilots, and office modeling, test, and training
- Where in the overall process this and the next step fits in
- The role to be played by the Fund's users
- The meetings the Fund's users will attend and their purpose
- The deliverables the Fund' users will have to review and approve

- How the scope of the project is determined by the information the Fund's users provide (i.e., the level / detail of review necessary)
- How changes in scope can occur if requirements are not fully defined at the beginning of the project
- Emphasis on the importance of the Fund's users' participation and review activities, including the fact that their participation in the project will directly affect their work duties after the new system is implemented
- Emphasis on how failure to correct a deficiency during a review activity early in the project can have a serious impact on the project's cost and completion date later in the process.

For each phase, this DMO training process must be repeated.

Offerors must address in their proposals (Artifact I-4, Draft Training Plan) a plan for conveying this information to the Fund's users. Offerors may wish to include in their plan a form to be completed and signed by each user trainee at the conclusion of the training session confirming their understanding of the importance of their participation in the project's activities.

C.9.1.2 User Acceptance Test Training

Just as the Fund's staff members need focused training in the process that will be used to define the new system's requirements, design the solution, and implement it, they must also be trained in the purpose and execution of User Acceptance Testing (UAT). The Fund believes that staff participation in UAT serves two purposes:

- It validates that the provided solution meets the requirements that were developed early in each phase
- It provides users with hands-on experience in the solution they will soon be using every day, reinforcing the points that were made (or will soon be made) in user training.

However, many users approach UAT with a lack of understanding of the purpose of UAT and of their role in making UAT a success. The UAT training provided by proposer must accomplish the following:

- Provide preliminary general and work process user training (as described in the following sections)
- Provide testers with proficiency in the use of any automated test or result recording tools provided by the proposer (including the test repository described in Section C.10)
- Provide testers with an overview of general test practices so that, upon completion of the scripted phase of UAT, they can further exercise the system with ad hoc tests that probe the limits of the design and specifications (e.g., determining the results of trying to retire a member with too few years of service, with a day less than the required years of service, with exactly the required years of service, …)

The Fund recognizes that some users are by nature better testers than others, devising scenarios that truly test the system, etc. There is no expectation that the training provided by the proposer will make every user an expert tester. There is every expectation that every user who completes UAT training will be a competent tester who understands the goal of their execution of UAT.

As noted in Section C.10.4 that describes User Acceptance Testing, no user testing may start until the Fund's staff is trained in testing methodologies and problem incident reporting.

C.9.1.3 General User Training

Topics to be addressed in the user training program include, at a minimum, those items listed below:

- Offeror's system development methodology – aimed at users
- Identification of the legacy processes that each user previously performed and how such processes map to the new processes. The purpose is for users to understand what they used to do vs. what they will do in the future.
- With respect to the new system's functional capabilities:
  - This training must be focused on educating the users in <u>how to accomplish their job duties</u>, i.e., which processes / sub-processes apply to the user's particular job responsibilities and how to invoke and execute those processes and sub-processes

- This level of training is distinct and separate from training in user procedures (menus, windows, screens, radio buttons, etc.) defined below
- It includes training in the use of the Work Process Manual and help facility discussed in Section C.8.1.2, and encompasses all manual as well as automated processes
- Where appropriate, this training also indicates where processing that previously was done manually (or with an access database or excel spreadsheet) is now done as a part of the actual pension administration system. This will help wean users from the use of their former "outside the system" tools

- User procedures (including but not limited to navigating menus and screens, entering data, queries, and "short-cuts" / "hot keys")
- User system administration (including but not limited to system functional access and system-wide parameters)
- User maintenance of date sensitive parameters, variables, and coefficients used in the system
- All applicable balancing and reconciliation processes involved in bridging and/or converting data
- Use of the various documentation deliverables, including on-line help and error messages
- Query language(s)
- Report writer products
- Deliverables repository.

The Offeror will include in its proposal (Artifact I-4, Draft Training Plan) a top level User Training Plan that identifies the specific topics that will be covered. This training plan must also identify the courses that will be provided (including a brief description of each course's contents) and must include descriptions of:

- Materials / facilities to be provided by the Fund.
- Training materials that will be developed by / delivered by the Offeror
- The number of hours required by the Fund's users for attending classroom sessions, training laboratories, and for independent study.

Of particular importance in this regard is the Work Process Manual (and Help Facility) discussed in Section C.8.1.2. No training relating to the use of the new pension application is to be conducted until the Work Process Manual is provided (first for review, revision and approval by the Fund's project management) and subsequently to all trainees. The pension application training sessions must be based on the Work Process Manual and include instruction in its use. The Fund recognizes that the new solution will be delivered in phases. Therefore, it is understood that there will likely be multiple versions of the Work Process Manual (each more complete than the preceding version) corresponding to the project's functional rollout phases. Before any user training is conducted in support of a functional rollout, it is imperative that the Work Process Manual supplied to the trainees be complete in terms of the processes and sub-processes used in that rollout.

The preceding paragraph is not relevant to user orientation sessions, training in the project's system development life cycle, or similar training relating to project methods and processes – as opposed to the use of the new solution itself.

C.9.1.4 Initial Work Process User Training

A particular concern of the Fund is the ability of users to process work and fulfill their job duties utilizing the new solution as soon as it first becomes available at the time of the initial functional cutover. As described above, the Offeror will provide standard training in the new solution, which will familiarize staff with the technical environment: screen navigation, windows, containers, tabs, wizards, drop down lists, radio buttons, hot keys, data entry fields, and the like. But this training, while essential, is not sufficient to equip the users to begin processing work efficiently. Users do not think in terms of tabs and containers and wizards, etc. They think in terms of processes and sub-processes – e.g., enrolling a member, generating retirement estimates, issuing refunds, setting up service purchases, etc. This is the reason for the stress placed on training in work processes in this RFP.

The Offeror will identify for each user functional group the work processes and sub-processes for which they are responsible. In identifying the processes that will be documented, the Offeror will adopt the terminology with which the users are already familiar. Users will be asked to confirm that all work processes for which they are responsible have been identified in terms that are familiar to them.

For each work process / sub-process identified, the Offeror will develop a user-friendly script to be followed when using the new system to complete the process. Each script will start at system logon and "walk" the user through the windows, containers, tabs, wizards, screens, etc., in sequence, that have to be accessed in order to complete the work process. The scripts will address all drop down lists, radio buttons, data entry fields, etc. that must be used in processing work. Included in each procedure must be any necessary interaction with workflow management features, such as selecting a work packet from the user's work queue, passing work on to another user / reviewer, resuming work on a work packet passed from another user, suspending work packets until a subsequent triggering event occurs, closing out completed work packets.

Each process "walk" in the manual must be complete in itself with no cross-references to other process "walks." For example, there may be a process called "Retirement Application." As part of processing an application for retirement, the user may review the member's demographic information included on the application form and update the database with any changes. No doubt there will be another process in the manual for "Change Demographic Information." Nevertheless, the section on "Retirement Application" should not refer the user to the "Change Demographic Information" section, but rather should include the contents of that section, with any adjustments necessary to account for navigating to demographic information processing from the retirement application process (rather than from system logon). The Fund understands that this approach will result in significant duplication within the manual. However, duplication is necessary to avoid the confusion which would result from forcing the user to refer from one process "walk" to another, possibly several times, in order to complete a single work process.

The Offeror's training plan must include instruction in the use of both the Work Process Manual and the on-line help facility.

C.9.1.5 ECM Training

The Fund expects that the workflow component (and the subsequent training) of ECM will be so well integrated into the pension administration system that no workflow-specific training is necessary for users. However, user training in the new imaging solution must be included in the top level training plan presented in the Offeror's proposal (Artifact I-4, Draft Training Plan). The Fund requires that the successful Offeror provide a comprehensive imaging training program that addresses both training on the stand-alone Electronic File Cabinet (EFC) and on the imaging system as integrated with the line of business solution. User training should encompass all modules that are a part of the imaging solution and address the training needs of:

- File room / mail room end-users
- Staff members
- Supervisors and managers.

Topics to be addressed in the imaging training program include, at a minimum:

- Imaging system's functional capabilities
- Document preparation and scanning capabilities (for the file room / mail room personnel)
- Basic user procedures (navigating menus and screens, scanning, indexing, retrieving images, entering data, queries, "short-cuts" / "hot keys").

The format of the training to be provided must include not only classroom instruction, but also and more importantly, training workshops / laboratories that offer participants hands-on experience with all of the facets of the new imaging solution that pertain to their job duties. This also means that general application user training should include training on searching for, retrieving, annotating, etc., electronic member records.

Imaging system training should be based on the delivered imaging system User Manual but be supplemented with overhead presentation materials, workbooks, labs, etc., as necessary.

C.9.2 TECHNICAL STAFF TRAINING

The Fund has chosen to include in this section the training on all aspects of the Offeror's proposed solution that are not included in the user training specified in the previous section (Section C.9.1). Therefore, we include under Technical Staff the training of business analysts as well as the Fund's IT staff. Obviously, business analysts will not need training on the operating system(s), but the overall principles under which they initially observe and later learn how to configure the pension administration solution are the same as those for that govern how the IT staff will be trained.

C.9.2.1 General Technical Training

Topics to be addressed in the technical staff training program include, at a minimum, those items listed below:

- All applications software, whether packaged or customized
- Hardware operations
- Operating system level software
- Systems administration
- Troubleshooting and fault isolation
- Query language(s)
- Report writer products
- 4GL(s)
- Network (administration, management, tools, commodity software)
- Development languages
- Tools and techniques that will be employed in customizing and maintaining the applications software
- Data base management system
- Data modeling tools
- Test script generators
- Deliverable repository.

Training in both the use and the administration of software tools is required. It is desired that this training be provided in person, on-site at the Fund's main office, 233 Broadway, New York.

The Offeror will include in its proposal (Artifact I-4, Draft Training Plan) a top level technical staff training plan that identifies the specific topics that will be covered. This training plan must also identify the courses that will be provided (including a brief description of each course's contents) and must include descriptions of:

- Materials / facilities to be provided by the Fund
- Training materials that will be developed by / delivered by the Offeror
- The number of hours required by the Fund's technical staff members by job category for attending classroom sessions, training laboratories, and for independent study.

Like the Fund's users, technical staff members are also to be trained in the Offeror's development methodology. The Offeror may assume the existing technical staff is familiar with development methodologies in general.

Finally, in addition to any formal training that Offeror provides, it is the Fund's expectation that any time that their technical staff will be involved (if only as observers) whenever a task (e.g., system software installation and configuration, solution configuration, system backup, database tuning) is performed that may eventually fall to the Fund's technical staff to perform. This approach will also make the eventual formal training in tools, processes and procedures much more useful. In fact, Offeror is encouraged to

incorporate into its technical training references to activities previously performed by Offeror staff but witnessed by the Fund's technical staff.

C.9.2.2 Pension System Administration System Training

Training in the administration of the new pension administration solution must be addressed per the training requirements established above and must be included in the top level training plan presented in the Offeror's proposal (Artifact I-4, Draft Training Plan). The Fund requires that the successful Offeror provide a comprehensive administration training program for approximately twelve (12) staff members who will be a mix of business analysts and IT staff members.

Topics to be addressed in the administration training include, but are by no means limited to:

- Reconfiguration of all aspects of the system such as adding a new plan, a new user, changing the tax tables, etc.
- Support of the employer-reporting sub-system portion of the solution so that new employers can added to the system, trained and supported by the Fund's staff
- Support of the web-based member self-service sub-system of the solution so that the Fund's staff will be able to later expose (using appropriate security) functions currently accessible only to internal users.

C.9.2.3 ECM Administrative and Technical Training

Training in the administrative and technical aspects of the new imaging and workflow management solution must be included in the top level training plan presented in the Offeror's proposal (Artifact I-4, Draft Training Plan). The Fund requires that the successful Offeror provide comprehensive imaging and workflow training that addresses both the stand-alone Electronic File Cabinet (EFC) and the imaging and workflow solutions as they are integrated with the line of business solution. Training should encompass all modules that are a part of the imaging and workflow management solution and address the training needs of:

- Scanner operators
- Indexers (if different from the scanner operators)
- Quality assurance workers
- Business analyst end-users
- Supervisors and managers
- Staff members assigned to maintaining imaging/workflow
- IT operations and programming staff.

Topics to be addressed in the imaging and workflow training program include, as appropriate and at a minimum:

- Imaging system's functional capabilities

- Document preparation and scanning capabilities (for scanner operators only)
- Basic user procedures (navigating menus and screens, scanning, indexing, retrieving images, entering data, queries, "short-cuts" / "hot keys")
- Workflow processes and procedures
- Basic system administration features (e.g., system functional access and system-wide parameters)
- Troubleshooting and fault isolation
- Application / operation support
- Hardware operation and maintenance.

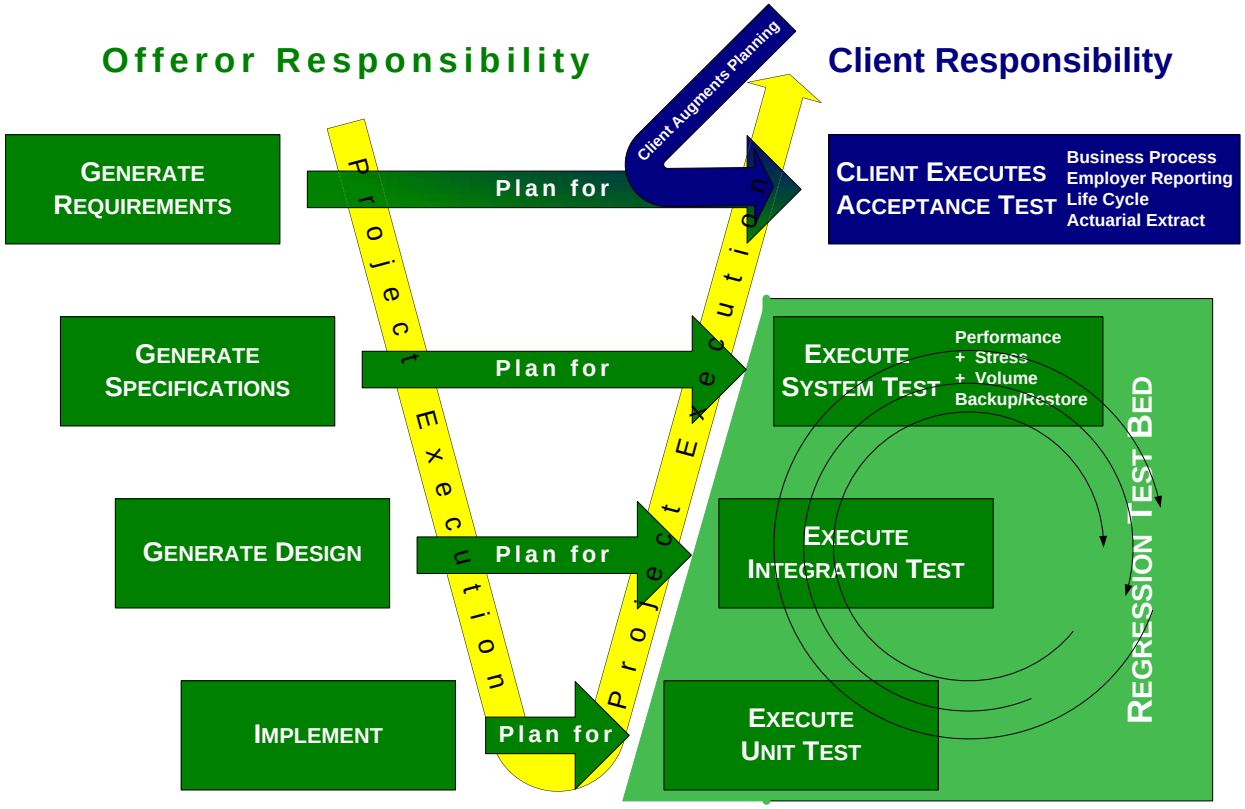
The format of the training to be provided must include not only classroom instruction, but also and more importantly, training workshops / laboratories that offer participants hands-on experience with all of the facets of the new imaging solution that pertain to their job duties.

C.10 TESTING (INTRO)

The Fund expects a comprehensive testing process to be in place and utilized to determine whether the solution delivered (both base functionality and customizations) satisfactorily addresses the requirements defined in the RFP as confirmed or revised during requirements definition.

Below is a diagram showing how the various development aspects and phases of a project relate to the various testing terms and definitions that the Fund employs. While the diagram as shown applies to the entire solution development life cycle, it is presented here to demonstrate the scope of testing as well as laying out the Offeror responsibilities for the development and execution of test plans.

Figure C-3: Suggested Scope of Testing



The diagram provides a wealth of information. It shows how the specifications for various test phases (on the right side of the project execution "V") are derived directly from solution development phases (on the left of the "V"). It also shows that Offeror must accept responsibility for all of the development phases, all of the test planning and preparation and all of the test execution except for the Client's Acceptance Test shown in the upper right hand corner of the diagram.

Testing terms may vary from Offeror to Offeror in their methodologies – but the requirements as stated herein must be met as a minimum. If the Offeror uses different terms, they must provide a mapping of their terminology to the Fund. A list of test-related terms, along with their meaning in the context of this RFP, is provided below:

Scope of Testing

The range of tasks conducted on the solution to determine whether the solution satisfies the functional and technical requirements defined in the RFP as revised through the requirements definition process – as well as the internal design specifications and the high-level and detailed design of the system.

Vendor Acceptance Testing (VAT)

The hierarchical series of tests conducted by the Offeror to verify proper functioning prior to delivering one or more components of the solution to the Fund. In order from simplest to most complex, Vendor Acceptance Testing (VAT) includes:

- Unit Testing
- Integration Testing
- System Testing
  - Performance Testing
    - **Stress testing**
    - **Volume testing**
  - Backup and Recovery Testing
- Regression Testing
  - The Offeror should note that system testing also includes complete execution of the Offeror-generated User Acceptance Test scripts to ensure that the system, when it is handed off to [CLIENT) will execute the acceptance tests to a reasonable level of completion.

User Acceptance Testing (UAT)

Execution of a series of defined steps using predefined data the objective of which is to determine whether the actual outcome consistently, repeatedly, and accurately equals the expected result. User acceptance testing is a deliberate process and requires test scenarios, test cases, test data, and expected outcomes to be prepared (by the Offeror) and known in advance of test execution. UAT occurs subsequent to the completion of VAT – though Offeror-accomplished regression testing continues in response to changes and repairs of problems determined during UAT.

User Acceptance Testing (UAT) also addresses:

- **Business Process Testing** – Scenarios covering all the business processes conducts using data sets designed to exercise all possible variations,

permutations and logic branches in base and customized function.

- **Employer Reporting Testing and Support** – Offeror-assisted testing of employer reporting functionality to confirm that employer wage and contribution reports can be received and posted via both legacy system reporting modes and the new solution's employer reporting capability.
- **Life Cycle Testing** – Testing a well-defined sequence of member or retiree events that effectively represent all, or a logical and related subset of, activities one would expect to occur over the life of a member or retiree.
- **Actuarial Extract File Testing** – Testing of the production of an annual actuarial extract file and reports (including an Experience Study Report and an Asset and Liabilities Report) to provide the system's actuary with the information necessary to prepare an annual actuarial valuation.

As mentioned above and indicated in the diagram, the Offeror will bear all responsibilities for test planning and preparation throughout the project.

These responsibilities include the identification and preparation of all test plans, test variants, test scenarios, test cases, test scripts, test data, and expected results for the entire system and *for all testing levels*. Furthermore, as indicated, the Fund requires that the Offeror plan for and execute complete, end-to-end testing of the solution, not just the customizations done for the Fund. In addition, the Offeror will provide a mechanism for reporting actual test results vs. expected results and for tracking all errors and problems identified during test execution (see Section C.5.3.7 Problem Incident Reports), as well as their resolution. This reporting mechanism will include trend analysis for tests completed, errors identified, rework efforts, and retesting efforts, in both numeric and graphical presentations.

When it comes time for the Fund's execution of User Acceptance Testing (UAT) of each rollout phase, Offerors are to deliver to the Fund's project manager all of the Offeror-prepared aforementioned materials at least two weeks prior to commencement of UAT – in both notebooks and end-user-logically-organized electronic copy. The Offeror will also provide training as necessary to the Fund's staff responsible for test activities – prior to the start of execution of UAT.

It is appropriate to assume that the majority of the Fund's users are unfamiliar with structured, disciplined acceptance test procedures – their conduct and resource (time and staff) requirements. The preparation of necessary testing materials as identified in the preceding paragraph is the Offeror's responsibility, though (again as indicated) the Fund reserves the right to review and approve the materials developed by the Offeror and to augment those materials and test plans and scripts as the Fund sees fit. Note that no user testing is to start until the Fund's staff is trained by the Offeror in testing methodologies and problem incident reporting (PIR) mechanisms.

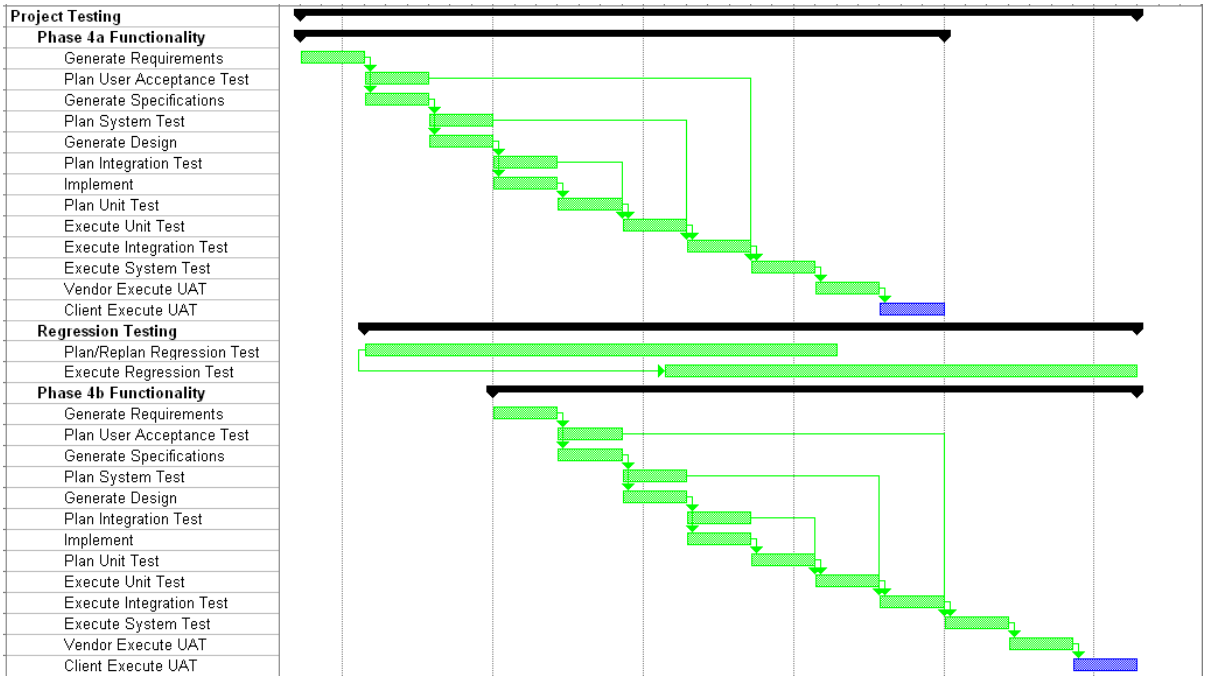
In preparation for and execution of testing activities, the Offeror must:

- Create the test environment, meeting the specifications of the test plans
- Install the system in the separate development, test, training, QA, and query environment (see Section C.4.3)
- Ensure that sufficient and approved test data is populated in the test database(s)

- Install and train the Fund's staff on the use of an ad hoc query capability, complete with the ability to download the results of the queries to an Excel spreadsheet as described in Section C.4.3– prior to execution of testing. Note that the ad hoc query capability is considered to include the appropriate data dictionary and schema definitions necessary for users to make effective ad hoc queries
- Support the operation of the test system and deliver system output to the Fund as requested
- Plan for documenting, and resolving any errors encountered during testing – and fully regression testing the subsequent repairs
- Provide adequate technical and other staff dedicated to testing support and problem resolution while testing activities are in progress
- Update the requirements traceability matrix demonstrating that the tests performed validate that specified system requirements, either listed in the "original Business Requirements Matrix (Artifact P-1) or through the requirements GAP analysis conducted as part of this implementation, have been met.

The diagram below shows the Fund's perception of the various tasks and their scheduling relative to one another; (Note, there is no intent to indicate that the project will have only two rollout phases);

Figure C-4: Relative Project Test Activities



In its proposal (Artifact I-12, SDLC Methodology Overview), the Offeror is to include its proposed test plan methodology. A sample test plan should also be provided (as an appendix to Artifact I-12, SDLC Methodology Overview). After contract award, the Offeror will be required to include details of its test plan methodology in the detailed project work plan. A separate test plan and set of test materials will be prepared for each functional cutover.

The Offeror will be responsible for establishing a repository to contain the test data results. The repository will be accessible by the Fund's Project Manager as well as other members of the project team. Data and material in the repository must be stored in such a manner that it cannot be altered after being filed.

For the deliverables repository, Offerors are to describe in their proposals (Artifact I-12, SDLC Methodology Overview):

- Their commitment to satisfying the requirements for the testing repository
- Where the repository will be located, how it will be backed up, and how it will be recovered in the event of an equipment failure
- How they propose to organize the repository for ease of use and access
- How they will control the repository to guarantee, on a continuous basis, the correctness and completeness of the repository at any time
- Their commitment to produce a document (which itself must be included in the repository) describing the testing repository, how it is organized, how items from it can be accessed, and how to recover the repository if necessary
- Their commitment to train the Fund's staff (including an administrator, managers, and end-users) in the use of the repository
- Whether third party tools are utilized (if so, they are to be provided by the Offeror – and their price included in the Offeror's cost proposal).

The Fund notes that automated or scripted testing is a critical component of delivering high-quality, high-performance and highly available applications. Automated testing and the associated tools give the ability to easily repeat, identify problems and execute test scenarios, and create a repository of test scripts for reuse. Proposers should describe their methodology for automated testing and how they intend to use it during the different phases of testing, specifically acceptance testing.

The Fund is concerned about the amount of time that will be allocated to testing relative to design and development. It is crucial that the Fund's training and testing activities not be abbreviated in order to meet project implementation schedules; it cannot be assumed that when testing commences the Fund can allocate 100% of its resources to this effort. Therefore, the Fund requires that a fixed ratio apply to the time devoted to the Fund's training and testing relative to the time devoted to Offeror requirements definition, design, and development. We propose a 4:1 ratio – i.e., if the time required for the Offeror to design, build, and test a particular functional rollout phase is eight months, then up to two months must be allocated to the Fund's staff for training and test execution. The Offeror must disclose in its proposal (Artifact I-12, SDLC Methodology Overview and confirmed in Artifact I-6, Draft Project Staffing Plan Tables) the assumptions it has used with regard to the Fund's resources required during testing.

The Fund will not accept the practice that has come to be called "best-effort testing." In this informal but widely used practice, testers evaluate functionality to the best of their abilities within the time limits they have been given. When the time is up, the application is released, ready or not, and end-users and members do the rest of the testing. Without time to make any improvements to the process, testers are immediately assigned to the next module, system, phase or project. Investment in testing resources must be carried through to achieve the level of quality and user satisfaction consistent with the Fund's (and the

Offeror's) vision of the solution. Thus, Offeror-supplied tools and methodologies must be prioritized, or the Fund risks damage to their members' satisfaction. While development and test teams have to move faster than ever before, the enterprise cannot sacrifice application quality for speed.

Offerors are invited to discuss these issues in their proposals (Artifact I-12, SDLC Methodology Overview) and to offer an alternative approach. However, if they propose a significantly higher ratio of development time to testing time, they must explain the rationale for their alternative. Prior to contract execution, a fixed ratio will be discussed and agreed to. No deviations from the fixed ratio will be permitted during the course of the project except by express written approval of the Fund.

The following sections provide specific requirements and detail the Offeror's responsibilities relating to both Vendor Acceptance Testing and User Acceptance Testing of the new solution.

C.10.1 SCOPE OF TESTING

The Fund is concerned as to the adequacy of the *scope* of testing of the pension administration application. It is understood that Offerors proposing packaged solutions to be modified (as opposed to template-based or fully customized solutions) will likely test their base product via automated testing routines, then design specific test cases to validate their modifications to the base product.

However, **at a minimum**, the Offeror is responsible for designing test plans and specific test cases and developing all test materials (scenarios, scripts, data, etc.) necessary to exercise and validate each and every line item in the LOB spreadsheet of the Requirements Traceability Matrix described in Section C.5.3.1, not just the functions that are customized for the Fund. The matrix requires the Fund's Project Manager (or other Fund staff member appointed by the Project Manager) to sign off on every INDIVIDUAL line item in the matrix. In order for an authorized Fund staff member to indicate, by his/her signature on the matrix, acceptance of an individual line of business function line item, the Offeror will have to demonstrate through appropriate testing activities that the line item is satisfied by the solution as implemented.

In its proposal (Artifact I-12, SDLC Methodology Overview), the Offeror is to state its commitment to design test cases and develop all related test materials (scenarios, scripts, data, etc.) necessary to validate, at a minimum, each and every line item in the LOB spreadsheet of the Requirements Traceability Matrix. The Fund welcomes discussion of any additional line of business application testing being proposed by the Offeror.

Thus the Offeror is to develop and deliver a test plan and test materials for ***all*** functionality to be delivered to the Fund – regardless of its origin, i.e., baseline product, modification to a baseline product, or custom function.

The following subsections set forth specific topics that must be addressed by the Offeror's test plan and specific testing scenarios that must be addressed by the Offeror test team.

C.10.2 VENDOR ACCEPTANCE TESTING

The Vendor Acceptance Test (VAT) will demonstrate the successful testing and operation of the system by the Offeror, ensuring that the new solution is functioning and processing data correctly and ready for the Fund's User Acceptance Testing (UAT). In their response (Artifact I-12, SDLC Methodology Overview), Offerors are encouraged to describe their testing methodology, particularly how they conduct the testing, what controls are in place, how the test results are evaluated, etc. As noted above, the tests that the Fund would expect to see the Offeror conduct within VAT include:

- Unit testing of any code developed specifically to address requirements or issues specific to the Fund
- Integration testing to ensure that all third-party and other application packages integrated into the solution perform properly and that information is exchanged among the components properly
- End-to-end application system testing, including stress tests, volume tests, performance tests to ensure that the solution will meet performance requirements under expected user loads, and backup and recovery testing. Note that such system testing should also include complete execution (and certification that it has been successfully executed) of the Offeror-generated test scenarios for UAT.

Furthermore, the Fund would expect VAT to include continuous regression testing of the implemented solution to ensure that all subsequent fixes and changes to the system do not break things which worked prior to the implementation of those changes. Because regression testing will be an important part of UAT as well as VAT, the Fund expects the Offeror's response (Artifact I-12, SDLC Methodology Overview) to contain a thorough discussion of the Offeror's philosophy and methodology for regression testing.

In fulfilling the testing responsibility, the Offeror must provide an internal, independent group to conduct Offeror unit, integration and system testing before functionality is delivered to the Fund for UAT. Following what the Fund considers a "best practice" in solution development, the Offeror testing team is to be 100% independent of the development team. The independent Offeror testing team must be present and available to support the Fund's test team during UAT.

The following subsections set forth specific requirements relating to the Offeror's unit testing, integration testing, system testing and regression testing.

C.10.3 CRITERIA FOR CUTOVER TO USER ACCEPTANCE TESTING

Cutover from VAT to UAT is more than a date on a project plan. Prior to the commencement of UAT, the Offeror must have successfully completed all required testing required by the phase definition. At the conclusion of VAT for each phase, the Offeror will provide written certification, signed by both the Offeror's project manager and the Offeror's Test Team Director (an individual separate and apart from the development staff charged only with test and quality assurance responsibility) that all tests have been completed satisfactorily (at a minimum 95% level, that is, all testing completed with no more than 5% of the test cases not completing satisfactorily) and that the system is ready for User Acceptance Testing.

The final output of VAT will be both hardcopy and electronic test materials including, but not limited to: test plans, test scripts, expected test results, actual test results, and tangible proof (i.e., screen prints [before and after images] or report output) that actual test results were compared to expected test results. UAT will not begin until two weeks after **all** VAT material has been provided to the Fund. Life Cycle

Testing and Employer Reporting Testing will not begin until Business Process testing has been completed.

C.10.4 USER ACCEPTANCE TESTING

User acceptance testing (UAT) will be conducted for each functional cutover. UAT will not begin until at least two weeks after all of the following have occurred:

- The Offeror has completed Offeror unit testing
- The Offeror has completed Offeror integration testing for the functionality included in the specific rollout phase
- The Offeror has completed Offeror system testing for the functionality included in the specific rollout phase
- The Offeror has completed regression testing for all repairs found and implemented during Vendor Acceptance Testing (VAT)
- The Offeror has provided the Fund with all test materials, test results, and written certification, signed by both the Offeror's project manager and the Offeror's test team director (an individual separate and apart from the development staff charged with only test and quality assurance responsibility), that all tests have been completed satisfactorily (at a minimum, to the 99 percent level) and that the system is ready for User Acceptance Testing.

As mentioned elsewhere in this RFP, the Offeror will be required to provide an independent test team composed of Offeror staff that had no hand in developing the system under test. That independent test team will be continuously present and available to assist the Fund's users in meeting their UAT responsibilities.

In addition to assisting the Fund's users in utilizing the test materials and executing the tests, the Offeror's independent testing team will also support users in reporting test results and in re-testing, as required, to confirm that all Problem Incident Reports were addressed correctly and thoroughly.

Tests conducted during UAT will be executed against converted data drawn from the Fund's current production legacy system as well as against new data added during execution of the test cases. As a result, the Offeror will need to accommodate in its project plan and timeline the completion of some sufficient level of data conversion to provide a satisfactory sample data set. Just as the Offeror is responsible for providing all of the test scripts, it is the Offeror's responsibility to identify or create **all** of the data required to exercise **all** of the test scenarios that comprise the complete UAT suite of tests. While the Fund's personnel will bring additional scenarios and data to the UAT, the prior completion of all tests requires that the Offeror has identified and used Fund data in their exercising of the UAT scripts.

Regardless of the project schedule, User Acceptance Testing for a rollout phase will not be considered complete until 100 % of the major processes run to completion without major error or issue. Final cutover of the system has further criteria as described in Section C.10.5, below.

The following subsections discuss specific user acceptance testing requirements relating to business process testing scenarios, employer reporting testing, and (member) life cycle testing.

C.10.4.1 Business Process Testing Scenarios

The Fund is concerned about the "auditability" of the new pension application and procedures. Therefore, business process testing scenarios for all key business processes. These scenarios must be addressed by the Offeror in developing testing plans and materials, informing Offeror unit testing[1], and in conducting Offeror integration and system testing, and in supporting user acceptance testing. Which testing scenarios are applicable depends on the particular functional rollout phase of the implementation being tested. Therefore, in order to demonstrate the "auditability" of the new solution, the Offeror is responsible for addressing each of the Fund's key business process as that business process prior to the rollout that contains the functionality associated with the business process. In recognition that some key business processes may be split over functional rollouts, or that the development of a later functional rollout could affect the functionality of previous functional rollouts, all business processes must also be tested prior to the last functional rollout.

Note that if a business process is contained in a workflow, these test scenarios must use that workflow.

The following is a sample of testing scenarios. It is not intended to be an exhaustive list of all test scenarios. An exhaustive list should be developed by the Offeror as part of the test plans for each functional rollout:

- With regard to federal income tax, design and conduct tests which demonstrate successful reconciliation of the aggregate amount withheld from all benefit payments (including "manual" and "one-time" checks) issued during the payroll period against the amount calculated to be submitted to tax authorities. This reconciliation of tax withholding must be demonstrated. Complete a test of the 1099R reconciliation process to ensure accurate aggregation of distributions, accurate calculation and reporting of basis recovery and all required tax information.
- Design and conduct multiple tests as necessary to demonstrate that at all times the Fund's manual and computerized records, subsidiary ledgers, control ledger, and reconciled bank balance are in agreement.
- To ensure that when members request a refund, processing occurs automatically so they receive benefit of **all** of the appropriate funds in their account, design and conduct tests to confirm that:
  - The account remains in a workflow queue or an "open" status until final salary and contribution information is posted; when final posting occurs, the full amount remaining in the member's account is automatically paid to the terminated member
  - The refund amount reflects all interest earned by the account through the date of termination.
- Design and conduct tests to demonstrate that the correct actuarial tables and mortality assumptions are used to calculate reserve charges and that the correct age and marital status (retiree only, joint

[1] Typically unit test has little to do with business processes, since the testing is concerned with whether the specific code module accomplished (correctly) the functions for which it was designed. However, the business process defines an environment within which a code module must function, and thus the business informs the unit testing designed for the specific module.

/spouse, and survivor) factors from the actuarial tables are applied in calculating future cost of benefits.

- Design and conduct tests to demonstrate that when an account is put on "hold" – whether for DRO or other reasons – that no benefit is distributed from it or change made to it other than by authorized users.
- Design and conduct tests to demonstrate the successful reconciliation of all the Fund's draft accounts using the reconciliation procedures developed and delivered by the Offeror, including confirming the accuracy of the outstanding checks report.
- Design and conduct tests to confirm that when a user changes the status of a check to "void", the transaction is directed to a different user having appropriate system permissions (e.g., 'supervisory', 'audit', 'review') for review and approval before it is committed to the database. Further, confirm that for each check successfully changed to "void" status, a corresponding correct automatic entry is made to the general ledger.
- Design and conduct tests to demonstrate that all subtotals, totals, and grand totals reported or displayed by the pension solution can be 'decomposed' (via audit trail) such that the user can identify the source data used to compute the totals. Further, confirm that all appropriate subtotals, totals, and grand totals are provided in all reports.
- Design and conduct tests to demonstrate that every automated general ledger entry attributable to the pension solution can be identified as to its source and is posted correctly.
- Design and conduct tests to demonstrate that the pension solution can provide an accurate display and report of all contributions that have been received but not yet posted.
- If separate sets of records, files, and/or general ledgers are maintained for calendar year and fiscal year reporting, design and conduct tests to demonstrate that the two ledgers can be reconciled using the reconciliation procedures developed and delivered by the Offeror.
- Design and conduct tests to demonstrate that contributions are accurately recorded as to the employer portion vs. member portion (based on the percentage of salary contribution factors pertaining to the particular tier).
- Design and conduct a test to demonstrate the ability to reconcile a given month's payroll (both aggregate dollar amount and number of payments) to the previous pay period. To do so, create a 'test month' in which test transactions are entered consisting of:
  - Setting up several new retirees
  - Terminating / suspending benefits of several retirees
  - Reinstating several retirees whose benefits were previously terminated
  - Entering benefit adjustments for several retirees.
- Then run a trial payroll and confirm that:
  - The aggregate dollar amount of payments in the new payroll trial run is equal to the aggregate dollar amount of the previous period's payroll, plus the amount of benefits paid to the new retirees, minus the benefits of the retirees whose benefits were terminated / suspended, plus

the benefit of the retirees who were reinstated, plus/minus the net amount of the benefit adjustments.

- Confirm the accuracy of a Monthly Payroll Summary Report reflecting the above.

- Design and conduct tests to demonstrate that the system will automatically prevent the user from refunding to a member an amount that exceeds his/her account balance.
- Design and execute test cases to demonstrate that, for **all** groups, for **all** types of retirement (e.g., service, disability, death benefits, death in service refunds, etc.) and for **all** retirement options (e.g., maximum, joint, pop up, level option payment plan, etc.):
  - Initial (preliminary) benefit amounts are correctly calculated
  - The account remains in a work queue or "open" status until final salary and contributions have been posted
  - When salary and contribution information has been posted, the final benefit / payout amount is accurately calculated, including all retroactive amounts, applicable interest postings and COLA adjustments
  - All future benefit payments reflect the recalculated (final) benefit amount
  - If the final benefit is greater than the preliminary benefit, a "catch-up" (retroactive) check is correctly calculated and automatically issued – based on the difference between the preliminary and final benefit amounts times the number of months the preliminary benefit amount was paid
  - If the final benefit is less than the preliminary benefit, the "overpayment" is correctly calculated and collected from the retiree – via a one-time payment or deduction over time from future benefit payments.
  - If the deduction exceeds the amount available, demonstrate how the amount is collected from multiple future benefit checks.
  - The member's account balance is zero at finalization.
  - **All** cases of member and spouse death cause **correct** reallocation and recalculation of benefits.
- Design and conduct tests to confirm that death benefits paid to multiple beneficiaries are apportioned correctly among the recipients, and that the total paid to all beneficiaries is equivalent to the total calculated death benefit.
- Design and conduct tests that confirm that loans are processed in accordance with the Fund's rules, such as:
  - A maximum of ten (10) loans can be issued to any individual at any time
  - No more than two (2) loans can be issued during any twelve (12) month period to any individual
  - Multiple loans can be consolidated into one

- Payments received are attributed to the proper loans
- Loan may not be taken or paid after a members 63rd birthday
- Combined loans and recalculated loans are amortized properly
- Missed payments are captured and processed properly
- Bi weekly repayment amount may not be less than 2% of the members' bi-weekly gross pay.
- Members applying for loans will be made aware of taxability of new loans

C.10.4.2 Employer Reporting Testing

In addition to the appropriate VAT of the new Employer Reporting System prior to the start of UAT, the Offeror will be required to participate in the testing (and initial support as described in Section C.3.1.10 of this RFP) of employer reporting. Offeror responsibilities in this area include:

- Demonstrating, and training the Fund's staff in the use of, the new employer reporting test data bed
- Providing comprehensive, on-site support to Fund staff in comprehensive testing of NYPD's reporting of wage and contribution data.
- All must be successfully tested (i.e., all wage and contribution posting results must match expected results) for at least six reporting cycles under **both** reporting modes (i.e., that employer's reporting mode under the legacy system and the new Web-based reporting method).
- The new employer reporting process must be performance tested with two of the largest imports cycles in recent years. These test imports represent cycles in which large sets of members are receiving back pay due to contract settlement. This can represent an order of magnitude increases in volume.
- Providing comprehensive, on-site support to the Fund's staff in testing the reporting capability of every employer via the employer reporting Website at least once.

C.10.4.3 Life Cycle Testing

Life Cycle Testing (LCT) will be conducted prior to the final cutover to the new solution. Test and validation of the accuracy of the data conversion and bridging process will be conducted prior to Life Cycle Testing (see Section C.6.2Data Conversion and Bridging and Figure C-2 – Phased Data Conversion and Bridging for additional information). LCT will immediately follow the successful completion of Business Process testing during the rollout of each phase. The Offeror will develop a plan for LCT and develop all test materials. The Offeror will itself conduct the LCT and certify its successful completion prior to turning LCT test materials over to the Fund's users for their LCT activities.

LCT will consist of the execution of a series of well-constructed test cases designed to simulate a member's full life cycle from initial enrollment through his/her retirement, eventual death, and

distribution of death benefits to beneficiaries. It will address, at a minimum, the following test scenarios / cases:

- Receipt of employer wage and contribution report for new member having no enrollment information in the system
- Automatic "triggering" of the appropriate response to that event related to the new member's enrollment – i.e., upon receipt of the wage and contribution report, generation of a workflow stream for the Fund's staff to complete enrollment activities for the new member, or automatically enroll the new member, or …
- Receipt of the completed enrollment form and entry of all enrollment information into the system
- Identification of incomplete information on the enrollment form and automatic "triggering" of a request for additional information from the member
- Receipt of the additional information and entry of the related data into the system, completing the enrollment process
- Periodic receipt and posting of additional employer wage and contribution data for the member
- Periodic posting of interest to the member's account
- Receipt and entry of updated beneficiary information
- Receipt of notification of member's termination of employment
- Receipt of member's refund application, including rollover information
- Calculation of amount to be refunded to terminating member
- Audit / review of refund calculation
- Processing of rollover of portion or all of a refund to member's financial institution
- Receipt of a loan application
- Generation of letter indicating approval of loan
- Generation of letter indicating that loan is paid off
- Receipt of final wage and contribution information for member
- Calculation of remaining balance to be refunded to member
- Generation of check for amount of remaining balance
- Confirmation that account has been "zeroed" – both contributions and service credit
- Processing of return to work in a covered position by the member
- Re-enrollment of the member
- Receipt of application to buy back refund from previous period of membership
- Calculation of eligible service credit and cost of buyback, including interest
- Audit / review of buyback calculation

- Generation of letter to member with buyback information
- Receipt of buyback check from member (and/or roll-in of funds from financial institution qualified retirement account)
- Posting of service credit and contributions to member account reflecting buyback of previous service by member
- Receipt of application from member to purchase eligible service
- Entry of purchase of service information into system
- Calculation of cost of purchased service
- Audit / review of purchase of service calculation
- Generation of letter to member with purchase of service information
- Receipt of check from member to purchase service
- Posting of service credit and contributions to member account reflecting purchase of service
- Receipt of notice of death of one of member's designated beneficiaries
- Adjustment of allocation of member's death benefit to remaining beneficiaries
- Receipt of application for retirement from member
- Identification of incomplete information and/or required documents (e.g., date of retirement, birth certificate) to process retirement application
- Generation of letter to member requesting missing information / documents
- Receipt and entry into system of missing information / documentation
- Calculation of member's final average salary
- Calculation of initial retirement benefit amount
- Audit / review of final average salary and initial retirement benefit amount
- Generation of retirement benefit estimate letter to member
- Transfer of member from active membership to retired status
- Generation of first retirement benefit check / direct deposit / EFT
- Receipt of final wage and contribution information for member
- Calculation of final retirement benefit amount
- Audit / review of final retirement benefit amount
- Calculation of overpayment (if final benefit is less than initial benefit) or underpayment (if final benefit is greater than initial benefit)
- Issuance of "catch-up" payment in event of underpayment

- Issuance of request to member for return of overpayment amount (or setup of deduction from next benefit check[s] to recoup overpayment)
- Receipt of notice of retiree's divorce (DRO)
- Calculation of benefit split between retiree and former spouse
- Audit / review of benefit split
- Receipt of notice of death of retiree
- Calculation of death benefit (lump sum or monthly annuity) for each beneficiary
- Audit-review of death benefit calculation
- Generation of check for lump sum death benefit to each qualified beneficiary
- Addition of qualified beneficiary to retirement payroll in case of monthly annuity
- Close out of retiree's account
- Receipt of notification of death of last beneficiary
- Close out of beneficiary account
- Correct handling and accounting for basis recovery
- Import of 1099R, reprint of same
- Ability to accept multiple wage reports for a member
- Correct calculation and application of COLAs, Escalations, and other benefit adjustment and offsets
- Supplemental payments
- Ability of holds and flags place on a member's account to genuinely restrict access to or activity in the account.

LCT must also include a test stream addressing disability versus regular retirement of the member. Additional test scenarios / cases that must be addressed in this version of LCT are to include:

- Upon receipt of members disability case from the NYC Police Department Disability unit, entry of disability retirement application information into system
- Receipt of the additional information and entry of the related data into the system
- Calculation of potential disability benefit amount
- Audit / review of potential disability benefit amount
- Receipt of the Medical Board's report on member's disability
- Preparation of disability case materials for presentation to the Pension Board
- Processing of denial of application for disability benefits and generation of denial letter to applicant, including information on rights to appeal decision

- Receipt of member's appeal of disability decision
- Processing of reversal of denial (approval) of disability benefits
- Generation of letter to member notifying the member of the Pension Board's decision.
- Generation of disability retirement benefit payments
- Receipt of disability retiree's annual earnings information
- Automatic comparison of reported earnings against allowable earnings
- Calculation of automatic reduction of disability benefit based on retiree's having exceeded allowable earnings amount
- Audit / review of disability benefit reduction
- Generation of disability retirement benefit checks / direct deposits / EFTs in new (reduced) amount
- Generation of letter to disability retiree indicating potential termination of disability benefits, with information on appeal process
- Calculation of "catch-up" amount to compensate disability retiree for period when disability benefits were not paid
- Audit / review of "catch-up" amount calculation

Generation of check / direct deposit / EFT for "catch-up" amount as mentioned elsewhere in this RFP, the Offeror will be required to provide an independent test team composed of Offeror staff who had no hand in developing the system under test. That independent test team will be continuously present and available to assist the Fund's users in meeting their LCT responsibilities.

In addition to assisting the Fund's users in utilizing the test materials and executing the tests, the Offeror's independent testing team will also support users in reporting test results and in re-testing, as required, to confirm that all Problem Incident Reports were addressed correctly and thoroughly.

C.10.5 Criteria for Final Cutover

The Offeror must certify in writing, signed by both the Offeror's project manager and the Offeror's test director (an individual separate and apart from the development staff, charged only with test and quality assurance responsibility), that the following criteria have been met prior to the cutover to the "live" processing for each functional rollout of the new system:

- Successful execution of all User Acceptance Testing by the Fund:
  - Successful execution of all Business Process Testing (including a match {to the penny} between old and new system calculations of all benefit calculations)
  - Successful execution of full Life Cycle Testing
  - Successful execution of Employer Reporting Testing
- Successful Offeror execution of all Vendor Acceptance Testing:

  - Successful execution of a full Regression test
  - Successful execution of complete system testing
  - Successful execution of a full stress test cycle
  - Successful execution of full integration test
  - Successful performance test
  - Successful test and execution of all failover, backup and recovery operations
  - Successful test of application, data, and infrastructure security
- Successful reconciliation of all client checking accounts (including confirmation of the accuracy of the outstanding checks report), using the reconciliation procedures delivered by the Offeror, at least once every two weeks during UAT; the reconciliation process must include “manually” generated checks
- Successful reconciliation of member and employer reserves in the pension solution database against general ledger reserve balances, using the reconciliation procedures delivered by the Offeror, at least once every two weeks during UAT
- Successful reconciliation of the calendar year general ledger and the fiscal year general ledger, using the reconciliation procedures delivered by the Offeror, at least once every two weeks during UAT
- Successful reconciliation of benefit payroll to that of the preceding pay period

In addition, there must be no PIRs outstanding that block a process for which there is no workaround within the system (i.e., critical PIRs) and no more than the lessor of 25 or 5% of outstanding non-critical PIRs of the total non-critical PIRs raised.

C.11 OFFEROR TRANSITION SUPPORT DURING CUTOVER

The transition from the current business processes to those in each phase and each major sub-system must be planned and managed by the Offeror. Having implemented their solution in other locations and with other clients, the Offeror understands that having received the Fund's approval of the UAT phase of testing is just one milestone in the Fund's transition into competent usage of the new solution – or of any of its critical subsystems.

C.11.1 LINE OF BUSINESS CUTOVER AND TRANSITION SUPPORT

Each rollout phase of the new solution will bring significant changes to the way that the Fund executes their business processes, some of them operational (new backup processes, new system reports or status dashboards to monitor and understand), and some of them user-oriented. The Fund's user sand IT staff will have undergone training, and many will have participated in UAT, but they will not be fully prepared for the sudden change in their lives.

To assist in the transition, Offerors are required to plan for and provide a transition support team for the period from two (2) weeks before the scheduled cutover milestone until eight (8) weeks afterwards[1]. The team of six (6) people is to be staffed by Offeror personnel with the following characteristics:

- A broad understanding of the solution
- Excellent people skills
- Excellent communication skills (possibly trainers)
- Patience for those times when they will be asked the same question four times in ten minutes

The Fund believes that the number of Offeror staff devoted full-time to transition support may decrease during the transition period, but they require the full staffing for at least the first half of the post-go-live date.

C.11.2 EMPLOYER REPORTING CUTOVER AND TRANSITION SUPPORT

The Offeror will be responsible for making available qualified individuals who can address employer reporting technical and operational issues during the transition period from the old reporting mode / format to the new, required reporting mode / format during processing windows. The personnel will be responsible for providing technical responses and business/functional responses. The required timeframe for staffing will be:

[1] Obviously if the milestone date changes, the window during which the transition support team is active at NYCPPF's location will also move.

- **Duration** – The support will be on site and available for the two months prior to and six months after the go live date for during the processing of the employer reporting

It is understood that participation by the Fund's staff in this effort is critical to its success. Therefore, the Offeror must discuss in its proposal (Artifact I-12, SDLC Methodology Overview) the role to be played by the Fund's staff vs. Offeror staff. The Offeror is to include in its proposed staffing plan the estimated number of hours that the Fund must be prepared to devote to it. Ultimately the ownership of this process, and the responsibility for its success, belongs to the Offeror.

Offeror must specify the number of contact hours that will be provided for training as well as the number of Offeror staff to be assigned to Employer Reporting support.

Until the conditions described in the section on testing of the Employer Reporting System have been met, the Offeror must continue to provide support of the Fund's staff on this critical subsystem.

C.11.3 ECM Operations Cutover and Transition Support

In its proposal (Artifact I-12, SDLC Methodology Overview), the Offeror must agree to provide thirty days of end-user ECM production / transition support as described below.

It is essential that any conversion of the existing image database and indexes shall have been completed by the Offeror prior to undertaking this task. In addition, cutover to this capability must be structured such that it is not reliant upon any other functional rollout phase being implemented first. Cutover to ECM operations, for example, cannot be predicated on active member functionality being up and running. Once the ECM solution has been installed, configured, customized to the Fund's specific requirements and thoroughly tested, it will be used on a day forward basis to capture images of incoming and outgoing documents (i.e., as an Electronic File Cabinet) even before its integration with the LOB solution. For the first thirty (30) business days of its use in the production mode, the Offeror will provide ECM operations support to the Fund.

At the beginning of the thirty day support period, the Offeror will be responsible for executing the Fund's ECM operations. The stimuli and workload will come from work that "flows" into and through the Fund, requiring imaging. In addition, the Fund may produce outgoing documents that will have to be imaged. The Offeror staff will execute the necessary steps (e.g., preparation, scanning, indexing, and image quality assurance) associated with the ECM solution. Fund staff will not process any work; they will merely monitor the process. The Offeror should view this period as an opportunity to continue to train Fund staff.

At an appropriate point during the thirty day support period, the Offeror is responsible for transitioning imaging operations to the Fund. Offeror staff will assist / guide / oversee Fund staff in the necessary steps (e.g., preparation, scanning, indexing, and image quality assurance) associated with the ECM solution. Once the transition has occurred, Offeror staff will not process any work; they will merely monitor the process and provide guidance, support, and problem resolution assistance as necessary.

The transition of responsibilities from Offeror staff to Fund staff will occur at a mutually agreeable point in time when the Offeror has proven the approach and the Fund is able to support the operation.

Offerors, in their proposals (Artifact I-12, SDLC Methodology Overview) for these activities, are to present their approach and methodology for how they will address this requirement and their anticipated transition point within the 30 day support period.

The Offeror is required in their response (Artifact I-15, Transition Support) to detail the cutover support plans for each phase of the LOB solution and for the specific sub-systems as indicated in Section C.11.1 through C.11.3.

C.12 OTHER REQUIRED SERVICES AND DELIVERABLES (INTRO)

In addition to the business, technology and project management requirements specified, the Fund has identified several additional areas that are of importance in selecting an Offeror. These requirements have been accumulated under a single heading — Other Required Services and Deliverables. The intent of this section is to inform the Offeror of its responsibilities and the expectations for its conduct over the duration of its relationship with the Fund in the following areas:

- Disaster recovery planning
- Warranty and support
- Miscellaneous.

C.12.1 DISASTER RECOVERY PLAN (DRP)

The Offeror will be required to produce a detailed, comprehensive Disaster Recovery Plan (DRP). The Offeror is to provide only information processing disaster recovery planning and not a business- or enterprise-wide recovery plan.

The purpose of the DRP is to:

- Avert an interruption of service wherever possible
- In the event a disaster does occur, assist the Fund in accomplishing degraded-mode information processing activities until the problem is resolved
- Assist the Fund in accomplishing a speedy, orderly return to normal production mode
- Ensure that one of the Fund's primary goals, "getting the checks out on-time," is fully supported.

The DRP will address <u>all</u> aspects of the new solution, including but not necessarily limited to:

- Hardware (all platforms, including network and PCs)
- Peripherals
- Operating system-level software
- Applications software
- Telecommunications
- Data
- Backup and restore procedures
- Off-site, cyclical media storage
- Workflow
- Imaging activities
- Procedures (both end-user and computer-related).

The DRP document must include a systems and software configuration inventory that will form the basis for system replacement in the event of a disaster. It will include actions to be taken:

- In the event any single component of the new solution is out-of-service
- In the event of a "major" disaster that disables most of or all the Fund's processing capabilities
- To restore normal operations once the disaster situation has been resolved.

It will address both the actions that need to be taken to resolve the emergency situation and restore normal operations, and the alternative procedures that will be observed by system users to continue day-to-day business transactions (albeit in a degraded mode) while the resolution effort is in progress. Disaster recovery team members will be identified and their roles will be defined.

Additional requirements relating to the DRP include:

1. The DRP must support the phased implementation required by the Fund and proposed by the Offeror. The DRP must be in place prior to cutover of each phase of the new solution, beginning with Phase 4. A draft will be submitted to the Fund for review at least one (1) month prior to scheduled system cutover for each phase.
2. The Offeror will be expected to evaluate various disaster scenarios and recommend the level of backup capability justified by the criticality of various client functions, e.g.:
   - The most critical functions may be moved off-site to a backup site until the disaster is resolved.
   - Less critical functions may be handled in a manual fashion until the disaster is resolved.
   - Some functions may be suspended entirely until normal processing capabilities are restored.
3. The DRP must include written procedures to be followed in each case. It must also include a training plan aimed at:
   - Familiarizing disaster recovery team members with how to handle a crisis using the DRP
   - Cross training team members appropriately so that recovery procedures are not reliant on the presence of any single team member
   - Providing to system users and technical support staff an understanding of when and how to notify disaster recovery team members of a crisis.
4. The DRP must include a section describing how to test the plan in a "dry run" situation. It must also include a description of how best to conduct a periodic structured review of the plan itself and the processing environment and then update the plan appropriately. Use of a commercially available software tool to aid in disaster recovery planning would be favored. If such a tool is utilized by the Offeror in developing the DRP, it must be delivered to the Fund for on-going use in updating the DRP – therefore, its cost must then be included in the Offeror's cost proposal. The Offeror must perform a test execution of the Disaster Recovery Plan and document the outcome of testing. The Contractor must provide certification, in writing, that the disaster recovery plan worked as defined.
5. The Fund will review the initial draft and provide feedback to the Offeror, so that the DRP can be appropriately revised.

6. Offerors must specifically address in their DRP how they will ensure that the generation and distribution of checks will not be compromised in any way.
7. Offerors are to include in their proposals (Artifact P-3, Technical Solution Overview) an outline of the DRP document (and discussion of any software tools to be used in its preparation).

C.12.2 WARRANTY AND SUPPORT

The sections that follow provide discussion of the various aspects of Warranty and support that are required of the Offeror.

C.12.2.1 LOB Application Warranty

With regard to the customized line-of-business application the Offeror must warranty that it will operate, in its entirety, in accordance with the RFP's requirements and the specifications approved by the Fund, for 12 months after final turnover and acceptance of the last phase of the project. The cost for this warranty should be included in the Offeror's cost proposal and be so identified. This implies a longer warranty period for portions delivered earlier in the project. If a component of the LOB solution (e.g., imaging software, Web server software) has a version upgrade, the Offeror shall be responsible for upgrading such component without any additional cost to the Fund.

C.12.2.1.1 STATUTORY AND REGULATORY CHANGES

For statutory and regulatory changes that have been necessitated by any federal government agency, board of review, federal statute, or federal directive (including, but not limited to the Internal Revenue Code, and regulations of the Departments of Labor and Treasury, and Social Security Administration) from the point of contract award through the end of the warranty period, including changes in the federal tax withholding tables, the Fund will not be charged. Rather, this functionality will be provided to the Fund at no additional cost. Following the warranty period, such changes will be provided to the Fund for as long as the Fund maintains a support arrangement with the Offeror. The annual software license and maintenance fee or other such fee will be included in the Offeror's cost proposal and so identified.

C.12.2.1.2 IMPLEMENTATION OF NEW MODULES AND FUNCTIONALITY

For new functionality and modules developed by the Offeror for other clients subsequent to the contract date, the Offeror must agree that within ninety (90) days of the announcement of such new functionality or module, the Offeror will provide the Fund with a "not-to-exceed" cost to implement such new software with all necessary customizations.

C.12.2.1.3 SPECIAL WARRANTY CONDITION FOR CERTAIN FUNCTIONALITY

The Fund understands that even with a 12 month warranty of the pension administration system, for reasons that are currently unknown, certain functionality may not be executed for the first time even within the standard 12 month warranty period set forth above. To protect the Fund in these cases, the

Offeror must provide a special warranty condition on every type of functionality that falls into this category. Examples of such functionality include:

- Annual Member Account Statements
- Annual Tax Processing
- Annual Accounting Reconciliation Procedures
- Annual COLA Processing
- 1099 Processing
- Quarterly or Annual Interest Posting.

Once the detailed project work plan is completed, the Offeror will know the implementation dates of the solution's various functionalities. Based on these dates and discussions with the Fund, six months prior to the final scheduled cutover, the Offeror will be aware of which functions will not be executed by the Fund during the period covered by the 12 month warranty. At that point the Fund and Offeror will jointly develop a detailed list of the functionality to which this special warranty condition applies. The 12 month warranty period for these processes will start the first time the process is run live in the production environment. For example, assume the membership phase is implemented October 2019, and membership statements are not run until January 31, 2020. The warranty period on the membership statements would run from October 1, 2020 through January 31, 2021.

In its proposal (Artifact P-3, Technical Solution Overview), the Offeror must agree to the terms of this requirement.

C.12.2.1.4 LIMITATIONS

The Fund will not limit the warranties available to it. In Section C-1.4 of their business proposal (Artifact C-1, Certifications and Affirmations), Offerors must affirm that the Fund is entitled to all statutory and commercially customary warranties, such as those prescribed by the Uniform Commercial Code and other applicable statutes.

C.12.2.2 System Security Plan

The Offeror will be required to produce a detailed System Security Plan.

The purpose of this plan is to provide the Fund with an overview of **all** of the security requirements associated with the pension application throughout its life cycle. The plan must describe the processes and controls that are necessary to protect the application from loss, misuse, or unauthorized access to or modification of information.

Therefore the Offeror's Security Plan must encompass at least the following:

- Security roles and responsibilities
- Protection against loss – continuity of system data:
  - System backup procedures – covering topics such as:

        - Candidate information to be backed up (critical application components, configuration files, member data, event logs)
        - Backup processes
        - Suggested backup schedule for the different types of candidate data mentioned above)
        - Use of the second physical environment as a backup for the backup processes
        - Suggested handling of backed-up data and media (off-site storage, cycles, eventual destruction, etc.)
    - Disaster and recovery planning – covering such topics as:
        - The Disaster Recovery Plan discussed elsewhere in this RFP (see C.12.1)
        - Recovery procedures using backed up system information (in the case of a non-disaster)
    - Software configuration management
    - Security incident handling, including, for example, system intrusion detection, denial of service attacks, etc.
    - Physical environment controls (power, lighting, fire, climate, water, etc.)
- Protection against misuse – inappropriate access to system:
    - User and device authentication
    - System administration procedures:
        - Protection against viruses, worms, spyware, etc.
        - Protection against possible denial of service attacks
        - Definition of user security profiles, addition of new users, etc.
        - Physical security (locks, security logs)
        - Wireless access
        - Remote access
        - Mobile device access
    - Self-Service Access
        - Member / Retiree Self-Service Access
        - Employer Self-Service Access
    - Event logging
    - System interface security
    - Security training

- Protection against unauthorized access to or modification of data:
  - Access control policy and enforcement
  - Separation of duties and system privileges
  - PINs or passwords and other security controls on member web-based access
  - Appropriate methods for providing secure access for staff when out of the office
  - Protection against system penetration by outside entities, the security aspects of such penetration and what assessments are to be done to ensure against such penetration
  - Audit trails
  - Data encryption:
    - Employer-submitted data
    - Web-based access to data by members, retirees and staff
  - Vulnerability scanning
  - Data security during project execution (see Section C.6.1)
    - Description of Offeror staff security education for this project
    - Agreement to provide (if requested) evidence of completed background checks on project staff
    - Description of system access control (applied to both Offeror and the Fund's staff) used during implementation
    - Description of process for environments will be monitored to determine if breach occurs (including tools used for monitoring and monthly reporting)
    - Steps to take should a breach occur during project execution
    - Discussion of monitoring of jump drives, memory sticks, and other portable memory devices during project
    - Discussion of procedures for securing data if taken off-site
    - Discussion of steps taken to ensure use of dummy data in training, testing, documentation, etc.
    - Methods used to secure data used in testing and repair – and scrubbing data subsequent to repair completion
    - Methods used to secure printed copies of data used during system implementation and destruction of same once project is complete
    - Methods used to test, validate and secure system patches during project
    - Methods used to secure technical system information (including passwords) prior to and during knowledge transfer to the Fund.
- Recommendations for monitoring the application's ongoing security requirements.

- Test procedures and activities that can be incorporated into the test plans.

Where topics in the security plan are covered in depth in other deliverables for which the Offeror is responsible, the Security Plan can simply reference the other deliverable (e.g., Disaster Recovery Plan). However, security of data, access, etc., remains a concern from the start of the project. Therefore it is important that the Security Plan address the issues mentioned above, not just post rollout, but also during the system implementation. Should the cross-referenced material mentioned above not be complete, the Offeror must provide sufficient pertinent information within the operating Security Plan to provide guidance until the referenced material is complete.

The Offeror is to supply a provisional plan covering security during project execution as part of their proposal (as an Appendix to Artifact P-3, Technical Solution Overview). That provisional plan (as modified by agreement with the Fund) will govern security until the delivery of the final System Security Plan. The Offeror must deliver a completed, detailed System Security Plan within the period specified in Table C-1 in Section C.2 – Timing of Major Deliverables.

C.12.2.3 IT Security Certification and Accreditation

The Federal Government has developed a program and guidelines under which the security of IT systems in support of the government can be evaluated in repeatable, comparable, consistent fashion. The Fund wishes to apply those guidelines to the certification of the security of the new LOB application, the program under which it is implemented and the resulting business environment in which it will continue to operate. The Offeror is responsible for developing their work and implementation plans to include IT Security Certification and Accreditation activities for each release, performed by an independent contractor as described in NIST Special Publication 800-37, *Guide for the Security Certification and Accreditation of Federal Information Systems.*

A third-party organization, selected by the Fund, will, at a minimum, assist the Fund in the certification of the new LOB solution through execution of the following phases (as described in detail in the above-mentioned Guide):

- Initiation Phase
- Security Certification Phase
- Security Accreditation Phase
- Continuous Monitoring Phase.

The information security program will include:

- Periodic assessments of risk, including the magnitude of harm that could result from the unauthorized access, use, disclosure, disruption, modification, or destruction of information and information systems that support the operations and assets of the agency
- Policies and procedures that are based on risk assessments, cost-effectively reduce information security risks to an acceptable level, and ensure that information security is addressed throughout the life cycle of each agency information system

- Subordinate plans for providing adequate information security for networks, facilities, information systems, or groups of information systems, as appropriate
- Security awareness training to inform personnel (including contractors and other users of information systems that support the operations and assets of the agency) of the information security risks associated with their activities and their responsibilities in complying with agency policies and procedures designed to reduce these risks
- Periodic testing and evaluation of the effectiveness of information security policies, procedures, practices, and security controls to be performed with a frequency depending on risk, but no less than annually
- A process for planning, implementing, evaluating, and documenting remedial actions to address any deficiencies in the information security policies, procedures, and practices of the agency
- Procedures for detecting, reporting, and responding to security incidents
- Plans and procedures to ensure continuity of operations for information systems that support the operations and assets of the agency.

As with the Network Vulnerability Assessment described in Section C.4.9.8, upon completion of the assessment, the third party organization will review all events with the Fund personnel, determine which of the identified shortcomings are false positives and which actually need repair and agree upon any remaining shortcomings. In the event there remain shortcomings in the system security, the Offeror will be immediately notified. The Offeror will be responsible for rectifying all remaining shortcomings within ten (10) business days of being advised of them. The rectification effort may consist of any combination, or all, of the following elements: additional hardware components, additional software tools, installation services, and/or configuration services. It must include suitable testing to confirm to the Fund's satisfaction that all of the identified security shortcomings have been eliminated. All costs associated with the rectification effort will be borne by the Offeror.

In the event that the Offeror is unable to resolve all system security issues to the satisfaction of the Fund and the third-party assessment organization, the Fund reserves the right (and will notify the Offeror of its intent) to engage the services of another (different from the organization doing the system security analysis) third-party organization to resolve all remaining network security issues. In this situation, the Offeror will issue a credit to the Fund for the full amount of the cost of the third-party organization's efforts to correct the situation. The credit will be applied to the first invoice issued by the Offeror to the Fund following notification to the Offeror of the amount expended on the third-party services.

C.13 OPTIONS

To this point, all that has appeared in this RFP represents mandatory items that are expected to be provided by the Offeror at the cost specified in the cost proposal. This section and all of its subsections identify six optional project areas.

Offerors must bid all of the options.

They are optional only in the sense that the Fund will have the option to exercise them. The Fund may choose to exercise no options or any one, any combination, or all of the options. The Fund will make a decision as to whether or not to exercise each option at the time of contract negotiations or at some time during the implementation project.

C.13.1 HARDWARE PROCUREMENT

As stated previously in this RFP, the Offeror is required to provide in its proposal detailed specifications and configuration information for all of the hardware components (as listed in artifact P-4, Proposed Hardware List) that will be required to support the proposed solution.

Although the Fund expects to purchase the hardware components directly; alternatively, as an option, the Fund may require the Offeror to supply the necessary hardware components. Whether or not this option is exercised, the Offeror will be responsible for installing, configuring, and testing the hardware (as discussed in Section C.4.6).

Offeror is required to provide the anticipated cost of this option in its cost proposal for this option.

The Offeror should provide its response to this option as Artifact OP-1, Hardware Procurement. The response should discuss the services the Offeror would provide in conjunction with this option and discuss any advantages or disadvantages the Offeror would foresee if the Fund were to exercise this option.

C.13.2 COMMODITY SOFTWARE PROCUREMENT

As stated previously in this RFP, the Offeror is required to provide in its proposal detailed specifications and configuration information for all of the commodity software components (as listed in artifact P-5, Proposed Software List) that will be required to support the proposed solution.

Although the Fund may elect to purchase the commodity software components directly; alternatively, as an option, the Fund may require the Offeror to supply the necessary commodity software components. Whether or not this option is exercised, the Offeror will be responsible for installing, configuring, and testing the commodity software (as discussed in Section C.4.7).

Offeror is required to provide the anticipated cost of this option in its cost proposal for this option.

The Offeror should provide its response to this option as Artifact OP-2, Commodity Software Procurement. The response should discuss the services the Offeror would provide in conjunction with

this option and discuss any advantages or disadvantages the Offeror would foresee if the Fund were to exercise this option.

C.13.3 BACKFILE CONVERSION

The replacement of the Funds existing imaging system, DocuShare, is a mandatory component of this RFP.

As an option the Fund desires to provide backfile conversion services (scanning, indexing, and quality assurance) from paper to image of approximately 50,000 active member files with an average of 185 pages per file

In artifact OP-3, Backfile Conversion, the Offeror should discuss what it believes is the best approach to providing these backfile conversion services. Offeror should specify where this activity will fit into the overall Phased Approach discussed in Artifact I-13, Draft Functional Rollout Plan. Offeror should provide its opinion as to why it would be advantageous to the Fund to procure these services through the Offeror rather than directly from an entity that specializes in this work. The cost provided for this option in the cost proposal should reflect the approach presented by the Offeror in artifact OP-3, Backfile Conversion. This cost should be a per page cost.

C.13.4 POST-IMPLEMENTATION SUPPORT

The Fund views the availability of support concurrent with and following the end of the LOB solution warranty period as potentially of great value to the Fund in its realizing the full value of the new pension solution. As such, the Fund requires that the Offeror propose, as an option, support and enhancement services to the system, on a year-to-year basis, for up to a five-year period commencing with the beginning of the warranty period.

Offeror is to cost the provision of up to five years of post-implementation support. In the first year after acceptance, this support will occur concurrently with the mandatory warranty support, but it is not to include any warranty work and is to be **separate and apart** from warranty support as described in Section C.12.2Warranty. The scope of the post implementation support activities includes all activities required in support of the application – i.e., maintaining and enhancing the LOB solution, providing operational support of the solution, and providing operational support of the hardware installed to host and operate the solution.

With regard to maintenance and enhancement of the LOB solution, the Fund does not envision requiring full-time, on-site support over this five-year timeframe. It is anticipated that much of this work may be done remotely. However, requirements gathering for new features requested by the Fund, complex installation and configuration of new software and features, and similar efforts may require periodic on-site work by one or more of the Offeror support team. In addition, the Fund anticipates the need for and sees the value of periodic on-site account reviews (e.g., review of potential changes to the application, review of open task orders, review of costs and schedules, and setting of priorities).

With regard to operational support of the solution and hardware, the Fund envisions such being satisfied through full-time, on-site support sufficient to ensure that the LOB solution and all related equipment and

supporting applications run optimally. Though the Fund looks to the Offeror to indicate the scope of these responsibilities and to enumerate in their proposal a representative set of same, the Fund expects these responsibilities to include: database tuning, periodic diagnostics of equipment to prevent unscheduled interruptions in service, and execution of regularly schedule backups.

In artifact OP-4, Post-Implementation Support, the Offeror shall describe its support strategy including receipt by the Offeror of a support request from the Fund and the processing of same through completion and approval by the Fund (including expected elapsed times).

Offerors shall further discuss in artifact OP-4, Post-Implementation Support, the number of hours they believe are appropriate for maintenance, enhancement, and operational support (as described above) over five 12 month periods and quote in their cost proposals a fixed annual support fee for each of the five one-year periods (the Fund does not pay for travel and all related expenses). The Offeror will also quote an hourly figure in the event additional time is required within a single 12 month period. Offerors shall list the resources or roles (e.g., Project Manager, Programmer/Analyst, Database Administrator, Network Engineer) they intend to allocate to Post Implementation Support along with the hours allocated over each of the five years for each role.

The Fund would exercise this option on a year-by-year basis. As such, the Offeror should include in artifact OP-4 the conditions under which the Offeror would be willing to provide the extension of services, on a year-by-year basis, if so requested by the Fund – for example, extensions must be requested at least 60 days prior to the end of the current support period. The Offeror should also state as to whether they would be willing to extend these services in less than a yearly increment and any conditions that may apply to such an extension.

C.13.5 INTERACTIVE VOICE RESPONSE

As an option, the Offeror must propose to implement an Interactive Voice Response (IVR) unit and computer telephony interface (CTI). The IVR must provide support to enable members and benefit recipients to obtain information / responses to specific requests in an easy, user friendly manner – while off-loading from the Fund staff time-consuming, “low-value-added” processes.

Conceptually, the capability is to be similar to automated telephone response systems that banks and credit card companies utilize. Straightforward use of a touch-tone phone to “navigate” through a series of menus and questions and answers is the starting point of the capability.

The IVR must allow callers to identify themselves with similar authentication to the membership self-service and then navigate through a series of audio menus:

- Receiving answers to “standard” questions, i.e., the date that benefit checks were mailed.
- Obtaining “balance” information.
- Requesting forms be sent to the caller.
- Requesting a call back from a particular individual (e.g., Jane Doe) or business function position (benefits counselor).

Requirements to be included in the IVR application include:

- User-type queries and responses as described above.
- The ability to leave "open ended" messages of up to 3 minutes duration from callers.
- Performance statistics, i.e., how many calls per hour (average, maximum, minimum): call distribution by hour of the day, day of the week, week of the month, month of the year in both tabular and graphic format; statistics related to individual requests at each of the nodes in the menu system; number of disconnects.
- The ability to support, initially, twenty-five (25) concurrent calls with the ability to increase this to 100 with additional hardware.
- The ability to support up to 5 hierarchical levels of menus with up to 5 choices at each level.
- The ability for this system to be programmed and messages created by non-information technology staff, i.e., support staff.

As a final requirement, the IVR is to include a Computer Telephony Interface (CTI). After the IVR prompts the user for authentication data, the CTI must automatically "prime" a general informational customer service screen in the event the caller wishes to be connected to a the Fund staff member for assistance.

Offeror is required to provide the anticipated acquisition cost, service / installation costs, and ongoing maintenance costs for all software modules related to the IVR system in its cost proposal for this option.

Offeror should provide the anticipated timeframe for deploying the IVR system and specify where this activity will fit into the overall Phased Approach discussed in Artifact I-13, Draft Functional Rollout Plan.

The response to this option should be provided as Artifact OP-5, Interactive Voice Response System. The artifact should, at least, discuss:

- Any assumption the Offeror is making about the capabilities of the Fund's current telephone equipment.
- The Offeror's experience with IVR systems and their opinion as the value the IVR system will add to the Fund's administrative offering
- If the Fund were to exercise this option, the anticipated timeframe for deploying the IVR system and where this activity will fit into the overall Phased Approach discussed in Artifact I-13, Draft Functional Rollout Plan.

C.13.6 FINANCIAL MANAGEMENT/ACCOUNTING SYSTEM

Although it has made no final decision on this matter, the Fund is considering replacing its current Financial Management/Accounting system (see Section B.4.2.3).

As a response to this option, the Offeror is to provide a list and description of Financial Management/Accounting systems with which the Offeror is familiar and which the Offeror has implemented / integrated as part of its previous Pension Administration projects. The Fund specifically requires information relevant to General Ledger, Report Generation, Accounts Receivable, and Accounts Payable.

Offeror is required to provide their specific recommendation for a new Financial Management/Accounting system and an explanation as to why this system has been recommended.

Offeror is to provide a description of the service level, support agreements, or available support plans related to the financial management system. Including information on the Financial Management Systems warranty period and post-warranty support.

Offeror is required to provide the anticipated acquisition cost, service / installation costs, and ongoing maintenance costs for all software modules related to the Financial Management/Accounting system in its cost proposal for this option.

Offeror should provide the anticipated timeframe for deploying the recommended Financial Management/Accounting system and specify where this activity will fit into the overall Phased Approach discussed in Artifact I-13, Draft Functional Rollout Plan.

The response to this option should be provided as Artifact OP-6, Financial Management/Accounting System.

PART D TERMS AND CONDITIONS

D.1 GENERAL TERMS AND CONDITIONS

D.1.1 PROPOSAL MODIFICATION OR WITHDRAWAL

Offerors who submit proposals in advance of the deadline may withdraw, modify, and resubmit proposals at any time prior to the deadline for submitting proposals. Offerors must notify the Fund's Point of Contact, as identified in Section A.3.1, in writing if they wish to withdraw their proposals. If an Offeror notifies the Fund of its intent to withdraw its proposal prior to the closing deadline, the proposal will be returned to the Offeror unopened. Notifications of intent to withdraw proposals may be delivered electronically via e-mail, but responsibility for confirmation of the delivery and receipt by the Fund rests solely with the Offeror.

D.1.2 COST FOR PREPARING PROPOSALS

The costs for preparation and delivery of the proposal, as well as any other costs incurred in the pursuit of contract award (e.g., travel to Mandatory Proposers' Conference, preparation and presentation of product demonstrations), are the sole responsibility of the Offeror. The Fund will not provide reimbursement for such costs.

D.1.3 CONTRACT

Prospective Offerors are urged to carefully read the "General Provisions Governing Contracts for Consultants, Professionals, Technical and Human Services" as the document may not be edited and will be an attachment to the contract agreed upon between the Fund and the successful Offeror.

D.1.4 ORDER OF PRECEDENCE

The executed contract between the Fund and the selected Offeror shall have precedence over all other documents relating to the project. In the event that there is a conflict or ambiguity within the text of the contract and any other incorporated documents, the order of precedence shall be:

- The executed contract and any other incorporated documents
- Addenda to this RFP (if any)
- This RFP
- Vendor Evaluation Questions and Answers
- Additional responses from selected Offeror
- Offeror response to this RFP

D.1.5 INVOICING, PAYMENTS, HOLDBACKS, AND TRACKING THEREOF

Although it is understood that many project deliverables will be submitted to the Fund by the selected Offeror, the number of payments made will be limited to those payment points identified in Table D-1, below. Figure D-1 is provided to assist Offerors in understanding the timing and scope of the contractual deliverables as they relate to payments[1]. It illustrates the sequence of the contractual deliverables against which payments will be made, based on the phasing of the project as described in Section C.5.1.7.

Following the diagram, Table D-1 explains each contractual deliverable and its acceptance criteria.

Offerors should note that there is a significant difference between the Fund's receipt of a contractual deliverable and its acceptance of that deliverable. It must be understood that in most cases, the Fund will require a minimum of thirty (30) days to provide formal written acceptance of a contractual deliverable associated with a payment. Only upon receipt by the Offeror of written acceptance from the Fund's Project Manager, may the contractual deliverable be invoiced to the Fund. All invoices must include a copy of the signed acceptance(s) by the Fund. Payments of invoices by the Fund will be made within 30 days of receipt of the invoice for an accepted contractual deliverable.

Each invoice for services submitted to the Fund by the Offeror must reflect a 15% holdback amount.

The successful Offeror will provide a monthly, updated spreadsheet indicating what has been billed (and when), what has been paid (and when), what invoices may be in dispute, and the remaining project budget. The format of this tracking spreadsheet and the detail will be reviewed and approved by the Fund. Invoice dates, invoice numbers, warrants numbers, and warrant dates must be included.

Upon acceptance of the final rollout of the system by the Fund's Project Manager, the Offeror will submit an invoice which includes one-half the sum of all holdback amounts (7½% of the total project cost), for payment by the Fund. Offerors are cautioned that *when* the Fund's final acceptance of the system will occur cannot be pre-defined. Acceptance will not be forthcoming until the solution is delivered in final form – that is to say, not until all Requirements Traceability Matrix line items have been accepted AND all documentation is updated to reflect the "as-built" condition of the system AND all authorized change orders have been completed AND all "punch lists" have been resolved to the Fund's satisfaction. Recall that the Offeror's project manager cannot be reassigned until this point in the project.

Upon the conclusion of the warranty period (12 months after the Fund's acceptance of the final rollout), the Offeror will submit an invoice which includes the remainder of all holdback amounts (the last 7½% of the total project cost), for payment by the Fund.

The Offeror should bear in mind the following terms:

- The **"firm fixed cost"** will be defined in the contract resulting from this procurement based on the line of business requirements and the **selected** (authorized) option areas.
- All prices quoted must be good for a period of one hundred eighty (180) days after the submission due date to the Fund.

[1] Note that the diagram and the subsequent table contain three functional rollouts, Phases 4a, 4b, and 4c. As noted elsewhere in the RFP, the Offeror is free to suggest as few or as many functional rollout phases as they feel are appropriate. Three were selected here only for illustrative purposes.

As part of the Offeror's cost proposal, Offeror must complete the Proposed Payment Schedule provided in the table below. Note that although payment for Change Orders may occur during the project, the Offeror is not to factor them into the overall fixed cost of the project.

Figure D-1: Public Pension Administration System Life Cycle, Acceptance Criteria, Payment Points

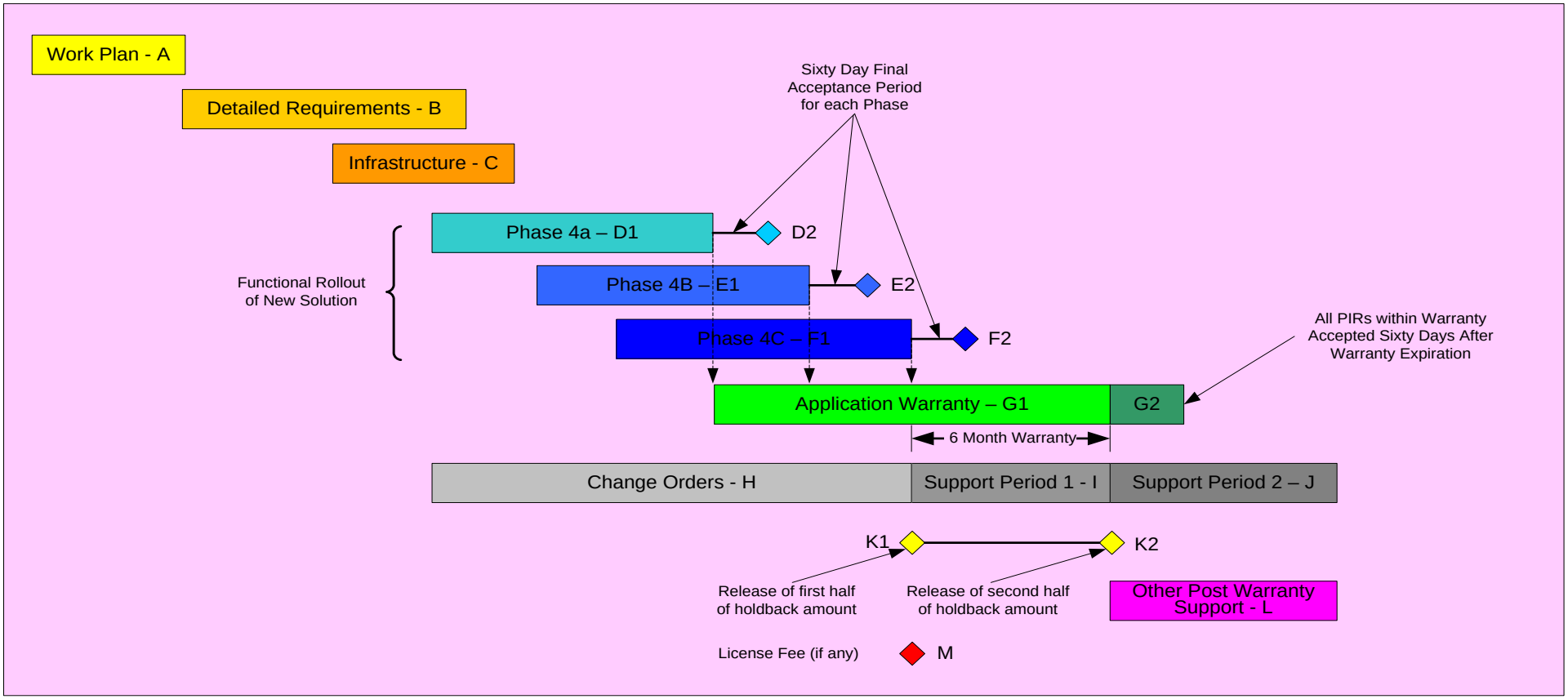


Table D-1: Public Pension Administration System Life Cycle, Acceptance Criteria, Payment Points

REF	TITLE	DESCRIPTION	ACCEPTANCE CRITERIA	PAYMENT #
A	Work Plan (Phase 1)	Acceptance of complete detailed project work plan.	Complete and comprehensive project plan reviewed, revised, and accepted by client.	Payment 1
B	Top-level Requirements (Phase 2)	Complete more-detailed requirements documented.	Base system installed and demonstrated to achieve requirements definition; completion of JADs, GADs and the next level down, more detailed definition of requirements; documents reviewed, revised, and accepted by client. Conference room pilot must be completed.	Payment 2
C	Infrastructure (Phase 3)	Infrastructure installed.	All infrastructure installed, configured, documented, and labeled; all warranty and maintenance information documented and turned over to client staff; all software licenses in client's name; upgrade, maintenance, and configuration control plans delivered and accepted by client; detailed performance monitoring scheme agreed to and in place.	Payment 17 (Actual Hardware and Software License Costs)
D1	Phase 4a - Into Production	Phase 4a in production.	Phase 4a in production; all phase 4a data converted and cleaned; data bridging procedures in place; user acceptance testing completed; life cycle testing completed; all user training completed; data cleansing/conversion audit report complete and accepted by client; no critical PIRs open; fewer than 5 high level PIRs open.	Payment 3
D2	Phase 4a – 60 Day Acceptance	Satisfactory completion of 60 day usage for Phase 4a.	60 days after Phase 4a in production and being used; no major problems; all critical and high level PIRs closed that were identified up to 30 days before go live closed (E1); an acceptable plan in place to resolve additional ones identified in the last 60 days.	Payment 4

REF	TITLE	DESCRIPTION	ACCEPTANCE CRITERIA	PAYMENT #
E1	Phase 4b - Into Production	Phase 4b in production.	Phase 4b in production; all phase 4b data converted; data bridging procedures in place; user acceptance testing completed; life cycle /conference room pilot testing completed; all user training complete; data cleansing/conversion audit report complete and accepted by client; no critical PIRs open; fewer than 5 high level PIRs open.	Payment 5
E2	Phase 4b – 60 Day Acceptance	Satisfactory completion of 60 day usage for Phases 4a and 4b.	60 days after Phase 4b in production and being used; no major problems; all critical and high level PIRs closed that were identified up to 30 days before go live closed (F1); an acceptable plan in place to resolve additional ones identified in the last 60 days.	Payment 6
F1	Phase 4c - Into Production	Phase 4c in production.	Phase 4c in production; all phase 4c data converted; user acceptance testing completed; life cycle /conference room pilot testing completed; all user training complete; data cleansing/conversion audit report complete and accepted by client; no critical PIRs open; fewer than 5 high level PIRs open.	Payment 7
F2	Phase 4c – 60 Day Acceptance	Satisfactory completion of 60 day usage for Phases 4a, 4b, and 4c.	60 days after Phase 4c in production and being used; no major problems; all critical and high level PIRs closed that were identified up to 30 days before go live closed (G1); an acceptable plan in place to resolve additional ones identified in the last 60 days.	Payment 8
G1	Application Warranty	Warranty period completed.	All support necessary provided; all PIRs identified prior to start of Phase 5 Warranty resolved; no critical PIRs open; plans developed and agreed upon to close out all remaining PIRs within 60 days. No more PIRs will be reported after the end of this period. Includes application, operational, and infrastructure support. All agreed upon upgrades provided, e.g., software, tax tables, federal reporting.	Payment 9
G2	Application Warranty – PIRs completed	Warranty closure.	Resolution of all remaining PIRs.	Payment 10
H	Change Orders	On-going.	Identification and resolution of issues that are out-of-scope from project inception until the conclusion of last phase of rollout. Ends contemporaneously with the end of the rollout of the last phase into production. Work is scoped by Offeror, agreed to by client, then executed, tested, and then accepted.	Payment 16 (TBD)

REF	TITLE	DESCRIPTION	ACCEPTANCE CRITERIA	PAYMENT #
I	Support Period 1	Parallel-to-Warranty Support.	Application, operational, and infrastructure support not covered by warranty; identified as to scope, level of effort, and fees.	Payment 11
J	Support Period 2	On-going support – post warranty.	Continuing support analogous to item I in the post-warranty period	Payment 12
K1	Release of Initial Holdback	Release of Initial Holdback.	Satisfactory compliance with contract performance through rollout of the last phase to go into production; resolution and completion of RTM (punch list) items; identification of how remaining items will be closed; see L2	Payment 13 (½ of the agreed upon holdback amount)
K2	Release of Remainder of Holdback	Release of Remainder of Holdback.	Completion of all RTM items.	Payment 14 (½ of the agreed upon holdback amount)
L	Other Post Warranty Support	Other support.	Post warranty support – delivered by Offeror according to their business model including: updates, upgrades (base software, configuration changes/updates/upgrades, customizations); delivered and priced according to Offeror business delivery model.	Payment 15
M	License Fee	Payment of License Fee for LOB Application software (if any)	LOB Application installed, configured, and operating in “out-of-the-box” mode (though it may not yet be customized for the Fund)	Payment 18

In accordance with New York City Administrative Code § 6-107.1, the Contractor agrees to accept payments under this Agreement from the City by electronic funds transfer. An electronic funds transfer is any transfer of funds, other than a transaction originated by check, draft or similar paper instrument, which is initiated through an electronic terminal, telephonic instrument or computer or magnetic tape so as to order, instruct, or authorize a financial institution to debit or credit an account.

Prior to the first payment made under this Agreement, Contractor shall designate one financial institution or other authorized payment agent and shall complete the attached "EFT Vendor Payment Enrollment Form" in order to provide the Funds Chief Fiscal Officer with information necessary for Contractor to receive electronic funds transfer payments through the designated financial institution or authorized payment agent. The crediting of the amount of a payment to the appropriate account on the books of a financial institution or other authorized payment agent designated by the Contractor shall constitute full satisfaction by the City for the amount of the payment under this agreement. The account information supplied by the Contractor to facilitate the electronic funds transfer shall remain confidential to the fullest extent provided by law.

D.1.6 CONFLICT OF INTEREST

If an Offeror has any existing client relationship(s) that involve the City or State of New York or the Fund that would compromise its objectivity, the Offeror must disclose such relationship(s).

In addition, the Fund may contract with LRWL Inc. (LRWL) to provide additional services through the course of this project. The Offeror should identify any pre-existing business relationships or legal proceedings it has that involve LRWL either directly or as a third party.

The Offeror must execute a notarized statement affirming that there is no conflict of interest as described herein. The Offeror shall also certify that no relationship exists or will exist during the contract period between the Offeror and the Fund that interferes with fair competition or is a conflict of interest.

The Fund reserves the right to reject a proposal or cancel the award if, in its sole discretion, any relationship exists that could interfere with fair competition or conflict with the interests of the Fund.

D.1.7 CONFIDENTIALITY REQUIREMENTS

D.1.7.1 Fund Confidentiality

The staff members that are assigned by the successful Offeror to this project – be they employees of the Offeror, sub-contractors to the Offeror or employees of sub-contractors – may be required to sign an Information Security Agreement.

D.1.7.1.1 USE AND PROTECTION OF CONFIDENTIAL INFORMATION

The Offeror must meet standards set forth in Federal, State and local law. Additionally, during the term of the contract, and in perpetuity, the Offeror shall maintain in strict confidence all Confidential Information of the Fund. The Offeror shall not, without obtaining the prior written consent of the Fund, use Confidential Information for any purpose other than for performance of its duties and obligations under the contract.

The Fund has a fiduciary obligation to secure the highly confidential nature of its records pertaining to members and employees. Accordingly, the Offeror agrees that any records it or its sub-vendors receive in connection with this procurement will be treated as Confidential Information.

The Fund shall permit the Offeror to have access to its data solely for the purpose of the vendor providing services pursuant to the contract, if any, awarded from this RFP. Accordingly, the Offeror may only access and process the Fund's data in connection with such services or as directed by the Fund and may not merge it with other data, keep a copy of it or commercially exploit it.

D.1.7.1.2 DISCLOSURE OF CONFIDENTIAL INFORMATION TO EMPLOYEES AND OTHERS

Notwithstanding the above, the vendor may disclose Confidential Information to its legal counsel; and, on a need-to-know basis, its employees, its agents, vendors, and sub-vendors, provided that it has taken reasonable steps to ensure that such Confidential Information is kept strictly confidential consistent with confidentiality obligations described herein.

D.1.7.1.3 Return or Destruction of Confidential Information

When continued use of Confidential Information is no longer necessary for performance of the contract, or upon the request of the Fund, the party in possession of such information shall promptly return it (including any copies, extracts, descriptions, and summaries thereof) to the requesting person, or shall promptly destroy it (and any copies, extracts, descriptions, and summaries thereof) and shall further provide the requesting person with written certification of same.

When such Confidential Information has been integrated into documents containing proprietary information of the vendor, or any third party, upon the request of the Fund, the persons in possession of such information shall promptly destroy any and all portions of the documents (and any copies, extracts, or summaries thereof) containing such Confidential Information, and shall further provide the requesting person with written certification of same.

D.1.7.1.4 Required Disclosure

Disclosure of Confidential Information shall not violate the confidentiality obligations imposed by the contract to the extent that Confidential Information must be disclosed pursuant to a court order or as required by any regulatory agency or other government body of competent jurisdiction.

D.1.7.2 Offeror Confidentiality

The Fund may treat all information submitted by a Offeror as public information following the conclusion of the selection process unless the Offeror properly requests that information be treated as confidential at the time of submitting the proposal. The Fund's release of information is governed by the New York State Freedom of Information Law ("FOIL"), codified in Public Officers' Law §§ 87, *et seq*. Offerors are encouraged to familiarize themselves with FOIL before submitting a proposal. The Fund will copy public records as required to comply with FOIL.

Any request for confidential treatment of information must be included in the transmittal letter with the Offeror's proposal. In addition, the Offeror must enumerate the specific grounds in Public Officers' Law § 89 or other applicable law which support treatment of the material as confidential and explain why disclosure is not in the best interest of the public. The request for confidential treatment of information must also include the name, address, and telephone number of the person authorized by the Offeror to respond to any inquiries by the Fund concerning the confidential status of the materials.

Any proposal submitted which contains confidential information must be conspicuously marked on the outside as containing confidential information, and each page upon which confidential information appears must be conspicuously marked as containing confidential information. Identification of the entire proposal as confidential is unacceptable.

If the Offeror designates any portion of the proposal as confidential, the Offeror must submit one copy of the proposal from which the confidential information has been excised or redacted. This excised copy is in addition to the number of copies requested in Section E.1 of this RFP. The confidential material must be excised in such a way as to allow the public to determine the general nature of the material removed and to retain as much of the proposal as possible.

The Fund will treat the information marked confidential as confidential information to the extent such information is determined confidential under NY's FOIL or other applicable law or by a court of competent jurisdiction.

The Offeror's failure to request confidential treatment of material will be deemed by the Fund as a waiver of any right to confidentiality which the Offeror may have had.

By submitting a proposal, the Offeror agrees that the Fund may copy the proposal for purposes of facilitating the evaluation of the proposal or to respond to requests for public records. The Offeror consents to such copying by submitting a proposal and warrants that such copying will not violate its rights or the rights of any third party. The Fund shall have the right to use ideas or adaptations of ideas that are presented in the proposals.

D.1.8 Adherence to Fund Workplace Policies

It is anticipated that a number of the Offeror's project team will be on-site – some regularly over the course of the project; others periodically as the need arises. Regardless of their purpose in being on-site or the frequency with which they are there, all Offeror staff must adhere to the Fund's workplace policies as described below.

Background Check – All Offerors' employees and their subcontractors who are engaged in this project should be prepared to undergo a thorough background and security investigation by the New York City Police Department. Such investigation may include fingerprinting and photographing. The cost of this background check will be the responsibility of the Vendor in accordance with payment requirements set by the New York City Police Department.

Building Access –The Fund's Project Manager shall be responsible for allocating building access, equipment access, and any other necessary services available from the Fund which may be used by the Offeror. Any use of the Fund's facilities, equipment, internet access, and/or services shall only be for project purposes as authorized by the Fund Project Manager.

Network Connection – All Offerors' employees and their subcontractors who will work onsite at the Fund will be asked to review and sign the Fund's IT policies relating to e-mail and computer use policies prior to being granted access to the Fund's computers and network.

D.1.9 Ownership of Work Product and Intellectual Property

The Fund will have all ownership rights to hardware and software, or modifications thereof, as well as associated documentation designed, developed, or installed. "All data, technical information, materials gathered, originated, developed, prepared, used, or obtained in the performance of the contract, including, but not limited to, all reports, surveys, plans, charts, literature, brochures, mailings, recordings (video and/or audio), pictures, drawings, analyses, graphic representations, software computer programs and accompanying documentation and print-outs, notes and memoranda, written procedures and documents, regardless of the state of completion, that are prepared for or are a result of the services required under this contract shall be and remain the property of the Fund and shall be delivered to the Fund upon 30

days' notice by the Fund. With respect to software computer programs and/or source codes developed for the Fund, the work shall be considered "work for hire," i.e., the Fund, not the contractor or subcontractor, shall have full and complete ownership of all software computer programs and/or source codes developed."

All work products and deliverables produced under contracts awarded as a result of this proposal will be the exclusive property of the Fund. This includes, but is not limited to, software, documentation, and development materials. An Offeror shall not sell a work product or deliverable produced under a contract awarded as a result of proposals without explicit permission from the Fund.

The Fund's ownership interest in both the LOB solution and the source code delivered, for the base components of the LOB solution, the customized elements of the LOB solution and the enhancements provided to each through post-implementation, out year support, is a license to use them in perpetuity.

The Offeror's proposal must clearly describe the terms of all licensing considerations, such as an End User License Agreement.

D.1.10 Indemnification and Liability Restrictions

The Offeror will indemnify the Fund against liability for any suits, actions, or claims arising from or relating to performance of the Offeror under this contract.

The Fund has no obligation to provide legal counsel or defense to the Offeror if a suit, claim, or action is brought against the Offeror or its sub-contractors as a result of the Offeror's performance of its obligations under the contract. In addition, the Fund has no obligation for the payment of any judgments or the settlement of any claims against the Offeror as a result of the Offeror's performance of its obligations under the contract. The Offeror shall immediately notify the Fund of any claim made or suit filed against the Offeror resulting from the Offeror's obligations under the contract. The Offeror will cooperate, assist, and consult with the Fund in the defense or investigation of any claim made or suit filed against the Fund resulting from the Offeror's performance under the contract.

The Fund will not indemnify the Offeror for any reason associated with the Offeror's performance under this contract. The Fund has not waived any right or entitlement to claim sovereign immunity under this contract.

The Offeror agrees to indemnify and hold the Fund, its Executive Director, managers, Board of Trustees, and employees harmless from any and all liabilities, damages, settlements, judgments, costs and expenses, including reasonable attorney fees of Fund staff or of the New York City Office of the Corporation Counsel, and the costs and expenses and attorney fees of other counsel the Fund may retain, related to or arising from:

Property damage, personal injury, death, loss costs, expense or other harm arising out of, resulting from, relating to or connected with any act or omission by the Offeror, its divisions, subsidiaries, subcontractors, partners, principals, employees, agents, elected or appointed officials, officers and directors in fulfilling this contract; or

Claims for infringement of patents, trademarks, trade dress, trade secrets, or copyrights arising from this contract; or any breach or any claimed breach of this contract by the Offeror or by any of its subcontractors, partners, principals, officers, directors, employees and agents.

D.1.11 NEGOTIATIONS WITH SUBCONTRACTOR

In order to protect the Fund's interests, the Fund reserves the right to attempt to resolve any contractual disagreements that may arise between the Offeror and its subcontractor(s) after award of the contract.

D.1.12 PROJECT TERMINATION

Offerors are advised that the Fund expects to complete the effort with a single Offeror. However, the proposals and ensuing contracts shall provide that at the end of any phase, the Fund may, at its sole discretion and with no penalty, terminate the effort and not move forward with the Offeror to a subsequent phase.

This section does not apply to termination in the event of a material breach of contract.

Should the Fund elect to terminate the project at the end of any phase, the termination shall be subject to the following terms and conditions:

- Termination shall become effective upon the Fund sending written or electronic notice to the Offeror. The Fund shall only be liable for payment of an amount equal to the costs allocated to the phases that were completed and accepted by the Fund; the Fund shall not be liable for any other cost, overhead, profits, or damages.
- Termination shall not be considered for cause or for default, and notice of termination shall not constitute an admission or accusation of any wrongdoing on the Offeror's part in connection with the termination.
- Upon termination, the Fund and the Offeror shall each execute a covenant not to sue and a general release of all claims or potential claims, including those for costs, profits, liabilities, or damages, as of the date of termination. However, the Fund may assert a claim that Offeror failed to return the Fund materials and data, which shall include all original files and other materials, and all copies, including unauthorized copies, of such materials in all media, including portions of either originals or copies, in Offeror's possession or under its control. Offeror shall agree that it will refrain from using any such materials or copies thereof. The Fund materials consist of but are not limited to devices, records, data, notes, reports, proposals, business cards, letters, specifications, drawings, equipment, and other materials. Offeror shall agree to erase or destroy any Fund materials and portions thereof contained in all types of computer memory, and so warrant in writing to the Fund within thirty (30) days of termination.

D.1.13 NON-NEGOTIABLE CONTRACT TERMS

The Fund has deemed the following Terms and Conditions as non-negotiable:

- New York City's "Appendix A - General Provisions Governing Contracts for Consultants, Professional, Technical, Human, and Client Services" (Attachment F-4)
- All work must be done in the United States of America; sending any work off-shore is prohibited

The above list is not deemed to be exhaustive; as such, the Fund reserves the right to deem other terms and conditions non-negotiable.

PART E OFFEROR'S PROPOSAL

E.1 FORMAT OF OFFEROR PROPOSALS

This section sets forth the format that must be followed by Offerors in developing their proposals in response to this RFP. Proposals that vary from this prescribed format are subject to being judged non-compliant and withdrawn from consideration.

The Offeror must understand that the Fund will view the degree of compliance with this section as an indication of the degree of cooperation to be expected from the contractor in working with the Fund after contract award. The Fund's request in this vein is not arbitrary; rather it is designed to enable the evaluation team to compare, in as straightforward a manner as possible, the contents of all proposals. Thus, it is in the Offeror's best interest to organize its proposal as described below.

Offerors are to submit the proposals in both hardcopy (on paper) and electronically (Flash drive) in the quantities specified.

Hardcopy Submission

In the hardcopy submission, the Business and the Cost Proposals must be separately bound and packaged. No cost information is to be included in the Business Proposal – with the single exception of Section C-1.3 of Artifact C-1, Certifications and Affirmations, Exceptions, in which it is permissible for Offerors to include relative or differential cost information. Please refer to the discussion under C-1.3 of Artifact C-1, Certifications and Affirmations Exceptions, below.

The proposals are to be prepared on standard 8½" x 11" white paper. All proposals are to be in single-column format and each artifact page-numbered from first page to last, with the permitted exception of attachments to the proposal. . Foldouts containing charts, spreadsheets, and other necessary supporting documentation are permissible, but must be held to a minimum. The pages must be placed in a binder with tabs separating the major sections outlined below. Figures and tables must be numbered and referenced in the text by that number.

The following information must appear on the title page of each hardcopy of both the Business and Cost Proposal:

New York City Police Pension Fund

Business or Cost Proposal in Response to

RFP Pin # **256 1704COPS2**
for
SYSTEM IMPLEMENTATION-COMPREHENSIVE OFFICER PENSION SYSTEM (COPS 2.0)
Federal Tax ID Number: _____ Dun and Bradstreet No.: _____

Closing date and time for submission of proposals: _____

[Name, title, address, voice, and fax telephone numbers of organization submitting proposal]

Signature _____

An individual authorized to bind the respondents to its provisions must sign proposals. The proposal must remain valid for at least one hundred eighty (180) days from the proposal receipt deadline.

Hardcopy submissions shall be in the following quantities:

- Ten (10) color originals (marked as original) of the Business Proposal. No cost related information should be contained or referred to in the Business Proposal.
- Ten (10) color originals (marked as original) of the Cost Proposal. No cost related information should be contained or referred to in the Business Proposal.

The Fund recognizes that Offerors may wish to copy the required cost spreadsheets into their hardcopy cost proposals in picture format (to ensure that proposal information cannot be altered). While this approach is acceptable, the Offeror must also provide the source Excel spreadsheets (unprotected, in Excel format) on the Flash Drive containing the cost proposal in the electronic submission.

Electronic Submission

In the electronic submission, the Business and the Cost Proposals must be on separate Flash Drives labelled clearly to indicate whether the Flash Drive contains the Business Proposal or the Cost Proposal. They should also be labelled to clearly indicate the name of the Offeror. The files on the Business Proposal Flash Drive must be contained in the following folder structure:

A folder indicating either “Review Copy” or “Redacted Copy”. Under each of these, subfolders corresponding to the Sections of the proposals as itemized in Section E.1.1. Each artifact must be a separate file named as the artifact (Artifact X-N.yyyy). For example, the review copy of business proposal shall be organized as follows:

Review Copy
    Section 1 – Minimum Qualifications
        Artifact MQ-1.docx
        Artifact MQ-2.docx

Any files provided in the “Redacted Copy” folder shall be in PDF format (refer to Section D.1.7 for provisions relating to confidential proposal material).

Electronic submissions shall be in the following quantities:

- Two (2) Flash Drives of the Business Proposal
- Two (2) Flash Drives of the Cost Proposal

All Word and Excel files must be provided in an “unlocked” form that will allow the Fund to edit, insert comments, “cut-and-paste” and annotate the documents and spreadsheets with comments and revisions during its evaluation.

E.1.1 BUSINESS PROPOSAL FORMAT

The organization and content of the Offeror's Business Proposal must conform to the outline set forth below. Following the outline is a description of the information that must be included in each section of the proposal. Any numbering within an artifact must agree with the description provided below the outline.

Proposal Transmittal Letter

Artifacts (broken up into the following Sections):

Section 1 - Minimum Qualification Artifacts

Artifact MQ-1, Minimum Qualifications – Business Entity
Artifact MQ-2, Minimum Qualification – Project Manager

Section 2 - Certifications and Affirmations

Artifact C-1, Certifications and Affirmations

Section 3 - Product Related Artifacts

Artifact P-1, Business Requirements Matrix
Artifact P-2, Business-Focused Pension Solution Overview
Artifact P-3, Technical Solution Overview
Artifact P-4, Proposed Hardware list
Artifact P-5, Proposed Software List

Section 4 - Implementation Related Artifacts

Artifact I-1, Key Project Personnel – Resumes
Artifact I-2, Proposer's Experience with Proposed Solution
Artifact I-3, Proposer Team Overview
Artifact I-4, Draft Training Plan
Artifact I-5, Draft Project Staffing Plan
Artifact I-6, Draft Project Staffing Plan Tables
Artifact I-7, Draft Project Management Plan
Artifact I-8, List of Standard Project Reports
Artifact I-9, List of Project Management Meeting
Artifact I-10, Initial Project Work Plan without Options
Artifact I-11, Initial Project Schedule without Options
Artifact I-12, SDLC Methodology Overview
Artifact I-13, Draft Functional Rollout Plan

Artifact I-14, Problem Incident Reporting Process
Artifact I-15, Transition Support
Artifact I-16, Proposer's Key Project Personnel References
Artifact I-17, Proposer's Customer References
Artifact I-18, List of Customers

Section 5 - Option Related Artifacts

Artifact OP-1, Hardware Procurement
Artifact OP-2, Commodity Software Procurement
Artifact OP-3, Backfile Conversion
Artifact OP-4, Post-Implementation Support
Artifact OP-5, Interactive Voice Response
Artifact OP-6, Financial Management/Accounting System
Artifact OP-7, Initial Project Work Plan including Options
Artifact OP-8, Initial Project Schedule including Options

Specific contents to be included in each section of the Offeror's proposal are discussed in detail below.

PROPOSAL TRANSMITTAL LETTER

The Proposal Transmittal Letter must be included and must be signed by a person authorized to legally bind the company. **Failure to include this signed proposal letter may result in needless delays.**

ARTIFACTS

The following describes each artifact that must be provided by the Offeror in its proposal. Artifacts must be provided in the order specified.

Some artifacts are to be generated from templates provided by the Fund. When a template is provided, the following descriptions of the artifacts identify the template to be used.

When no template is provided, the Offeror shall provide a free-form artifact using the general artifact template provided as Attachment G-13, Free-form Artifact Template. This template is set up for artifact P-2, Business-Focused Pension Solution Overview, and should be adapted by the Offeror for any other free-form artifacts.

ARTIFACT MQ-1, MINIMUM QUALIFICATIONS – BUSINESS ENTITY

This artifact must contain all of the materials necessary to show that the Offeror meets all of the minimum qualifications stated in Section A.2.1 of the RFP. It must also include all corresponding Offeror Client Reference Forms (see Attachment G-8).

As an Appendix to artifact MQ-1, the Offeror must provide its most current and two previous years' audited financial statements, including consolidated balance sheets and income statements (statement of profit and loss). Failure to provide this information may be grounds for rejecting Offeror's proposal. (The Offeror's annual report to shareholders should be included as an attachment to this artifact.) The Offeror must describe the trends of the last five years in revenues, employees, and profitability. If the Offeror is a

subsidiary of a larger corporation, financial information specific to the Offeror is required. An overall corporate information package may also be submitted.

Identify any legal actions, lawsuits, arbitration, or formal protests related to public employee retirement systems projects and contractual disputes in which the Offeror is currently involved at the time the proposal is submitted. Additionally, identify any other such actions in which the Offeror has been involved during the past five (5) years.

Any delisting of Offeror's stock must be disclosed and described.

Any changes in corporate ownership, changes in CEO, CFO, or COO in the past 5 years or projected in the next 6 months must be described.

The Offeror must inform the Fund if any customer used as a reference has a financial relationship with the Offeror whereby the client may receive any sort of compensation, including but not limited to reduction in fees, commission, and/or credits based on references leading to sales of Offeror's software, hardware, other products, or services.

The same financial information described above must be provided for any subcontractors (if any) and/or third parties proposed to participate in the project.

The Offeror must summarize the percentage of its organization's current revenue that is derived from retirement system solution implementations (and, as a separate calculation, the percentage of revenue derived from retirement system consulting, actuarial engagements, and the like). Similar information must be provided for each of the previous two (2) years.

Note: The Fund has not established specific revenue or profitability minimum qualifications. However, this information is intended to give the Fund a feeling for the strength of the Offeror's business entity.

This artifact is not scored.

ARTIFACT MQ-2, MINIMUM QUALIFICATIONS – PROJECT MANAGER

This artifact must contain all of the materials necessary to show that the project manager proposed by the Offeror meets all of the minimum qualifications stated in Section A.2.2 of the RFP. It must also include all corresponding Offeror Client Reference Forms (Attachment G-8).

This artifact is not scored.

ARTIFACT C-1, CERTIFICATIONS AND AFFIRMATIONS

This artifact shall consist of the following sections:

C-1.1 Affirmations and Certifications

In this section of the artifact, the Offeror must include the following statements of affirmation:

- A statement regarding the Offeror's legal structure (e.g., a LLC, a corporation), Federal tax identification number, and principal place of business
- A list of the people who assisted in the preparation of the Offeror's proposal, including their titles

- The name, phone number, and fax number of a contact person who has authority to answer questions regarding the Offeror's proposal
- A list of all subcontractors, if any, that the Offeror will use on the project if the Offeror is selected to do the work – for each proposed subcontractor, the Offeror must include (as an Appendix to Artifact I-3) a letter from the subcontractor, signed by someone authorized to legally bind the subcontractor, with the following information included in the letter:
  - The subcontractor's legal status, tax identification number, and principal place of business address
  - The name and phone number of someone who is authorized to legally bind the subcontractor to contractual obligations
  - A description of the work the subcontractor will do
  - A commitment to do the work if the Offeror is selected
  - A statement that the subcontractor has read and understood the RFP and will comply with the requirements of the RFP
- A statement indicating the proposed Project Manager is an employee of the prime contractor
- A statement affirming the Offeror's commitment to develop a full set of all of the rules, regulations, procedures, and practices that need to be accommodated in the new solution
- Affirmation of the Offeror's responsibility for the life of the contract for all contractual activities, products, and deliverables offered in the proposal whether or not that contractor directly performs or provides them. This includes providing an overall project plan and for each functional rollout phase, the detailed requirements definition, all necessary hardware and software components (if those options are authorized), including fully integrated workflow and imaging capabilities, an LOB solution, system integration services, enablement of all interfaces described in this RFP, test preparation and execution (including training and assisting the Fund with its testing responsibilities) of all elements of the Offeror's solution (not just customized elements), data conversion, training for users, employers, and IT staff, documentation, process change recommendations, organizational recommendations, and implementation of any other proposed technologies, as well as first-line problem resolution.
- Affirmation that the Offeror's organization is the prime contractor and the primary point of contact with regard to contractual matters. The Offeror must confirm that should any third party provider go out of business or otherwise become unable to fulfill its contractual obligations to the Fund with respect to this procurement, then the Offeror (prime contractor) will guarantee delivery of the same or equivalent products and services at the contractually agreed upon price.
- Affirmation that the Offeror has reviewed the "Current Business Environment," (Section B.3) as provided in the RFP.
- Affirmation that all requirements expressed in this RFP will be met by the solution implemented by the Offeror unless explicitly listed as an "Exception" in this artifact.

- Notarized affirming that states there is no conflict of interest as described herein. The Offeror shall also certify that no relationship exists or will exist during the contract period between the Offeror and the Fund that interferes with fair competition or is a conflict of interest.
- For the period of time starting seven (7) months prior to the publishing of the RFP and up until the award of a resulting contact, identification of any contact that the Offeror, a lobbyist, or any other third party which has been retained by the Offeror in any manner has had with the Fund's staff, the Fund's Board members, NYS and/or NYC legislators, the office of the Mayor of NYC, or legislative or mayoral staff related to the procurement. In addition describe the nature of the contact, the dates, and the substance thereof. Failure to do so accurately may be grounds for rejection of your proposal and/or cancellation of any subsequent contract.
- A statement affirming that it will meet all mandatory requirements contained in Section A.2.3 of this RFP.
- A statement affirming the Offeror's commitment to provide oral presentations and/or product demonstrations (led by the Offeror-proposed Project Manager) at the Fund's offices in response to Section A.3.10 of the RFP
- A statement acknowledging that the Offeror understands that this project is a multi-party relationship between the Fund, the Offeror, and the 3rd party project Offerors selected by the Fund and that the Offeror will cooperate with these Offerors as directed by the Fund (see Sections C.5.1.1 and C.5.1.3 of RFP).
- A statement affirming that all work to be performed in conjunction with the pension system being procured by this RFP will be performed in the United States of America.
- A statement affirming Offeror's understanding of "firm, fixed cost contract" as described in Section C.5.1.8.3 of the RFP.

The Offeror must also include the following seven certifications:

1. Certification as to whether the Offeror has ever had a contract terminated for default or cause. If so, the Offeror must submit full details, including the other party's name, address, and telephone number. In addition, the Offeror must disclose any pending litigation to which it is a defendant and possible financial exposure.
2. Certification as to whether the Offeror has ever been assessed any penalties in excess of five thousand dollars ($5,000), including liquidated damages, under any of its existing or past contracts with any organization (including any governmental entity). If so, the Offeror must provide complete details, including the name of the other organization, the reason for the penalty, and the penalty amount for each incident.
3. Certification as to whether a client has ever demanded payment of a performance bond or a bid bond of the Offeror. If so, provide the name of the client, client contact information and an explanation of the circumstances.
4. Certification as to whether the Offeror has ever been, or is currently, the subject of any governmental action limiting the right of the Offeror to do business with that entity or any other governmental entity.

5. Certification as to whether trading in the stock of the offering company has ever been suspended. If so, provide the date(s) and explanation(s).
6. Certification as to whether the Offeror, any officer of the Offeror, or any owner of a twenty percent (20%) interest or greater in the Offeror has filed for bankruptcy, reorganization, a debt arrangement, moratorium, or any proceeding under any bankruptcy or insolvency law, or any dissolution or liquidation proceeding.
7. Certification as to whether the Offeror, any officer of the Offeror, or any owner with a twenty percent (20%) interest or greater in the Offeror has been convicted of a felony or is currently under indictment on any felony charge.

If the answer to any of the last seven (7) certification items above is affirmative, the Offeror must provide complete details about the matter. An affirmative answer to any of these items will not automatically disqualify an Offeror from consideration. However, at the sole discretion of the evaluation committee, such an answer and a review of the background details may result in a rejection of the Offeror's proposal. The Fund will make this decision based on its determination of the seriousness of the matter, the matter's possible impact on the Offeror's performance on this project, and the best interests of the Fund.

C-1.2 Assumptions

In this section, the Offeror must identify and discuss all assumptions it has made in preparing its business and cost proposals. Further, the Offeror must state that there are no further assumptions related to meeting requirements of the RFP other than those enumerated in this section of the proposal.

Please include any assumptions you have made with regard to facilities to be provided by the Fund for office space and meeting / training rooms.

Any assumptions mentioned elsewhere in the Offeror's proposal will not be valid unless they are also listed in this section.

In setting forth their assumptions, Offerors should note the difference between "assumptions" and "exceptions" and take care that no exceptions to the RFP's requirements are included. Valid "assumptions" are suppositions made by the Offeror about issues on which the RFP is silent. "Exceptions" are suppositions made by the Offeror that contradict, or fail to conform with, one or more of the requirements stated in the RFP. Any items that are actually exceptions to the RFP's requirements, but misrepresented by the Offeror as assumptions in this section of the proposal, will be treated as exceptions by the Fund – and will, due to the misrepresentation, have a greater negative affect on the Offeror's technical score than would be the case had the item been correctly classified by the Offeror as an exception. (See C-1.3 Exceptions below for a discussion of how to set forth exceptions.)

C-1.3 Exceptions

In this section of the proposal, the Offeror must affirm that it has read and understands the RFP, any RFP amendments issued, and the questions and answers provided during the Mandatory Proposers' Conference. The Offeror must state in this section of the proposal any and all exceptions it takes with the requirements set forth in the RFP and/or with any terms and conditions contained in the RFP relating to the ensuing contract. Only those exceptions identified in this single section of the proposal will be

considered by the Fund; any others "distributed" across the proposal will be superseded by the provisions of this section and will not be considered or honored by the Fund.

For each exception listed in this section of the proposal, the Offeror is required to propose at least one alternative that would still be acceptable to the Offeror, as a potential Offeror, and that the Offeror reasonably believes will be acceptable to the Fund. In other words, the Offeror is required to be creative in addressing all exceptions by setting forth two alternative versions of each one (alternative A and B) in the hope that the Offeror and the Fund will more quickly arrive at a mutually acceptable compromise. The alternative versions of each Offeror exception may take various forms – again, the Offeror is being encouraged to apply creativity in order to accommodate legitimate Offeror reservations in a fashion that will not lead the Fund to reject the proposal due to onerous exceptions.

C-1.4 Warranty Limitations

In this section of the artifact, Offerors must affirm that the Fund is entitled to all statutory and commercially customary warranties, such as those prescribed by the Uniform Commercial Code and other applicable statutes.

This artifact is not scored.

ARTIFACT P-1, BUSINESS REQUIREMENTS MATRIX

The Business Requirements Matrix (BRM) contains all the business requirements for the pension administration system being procured. The BRM can be found as Attachment G-3. Offerors should complete the BRM following the instructions contained in Section C.3 of this RFP, and include it as Artifact P-1 of its proposal.

ARTIFACT P-2, BUSINESS-FOCUSED PENSION SOLUTION OVERVIEW

In the Business-Focused Pension Solution Overview, Artifact P-2, Proposer must provide an overview of their proposed solution. It must demonstrate that the proposed solution:

P-2.1: Addressing Requirements: Explain how the proposed solution addresses the Fund requirements contained in the Business Requirements Matrix, Artifact P-1
P-2.2: Achieving Objectives: Explain how the proposed solution achieves the primary and additional objectives listed in section C.1 of this RFP, "Nature of the Desired Solution"
P-2.3: Adherence to Best Practices: Explain how the proposed solution adheres (or doesn't adhere) to the best practices enumerated in section A.1.3 of this RFP, "Foundational Pension Administration System 'Best Practices'"
P-2.4: Improvement of Business Practices: Explain how the proposed solution improves on the current business practices as described in section B.3of this RFP, Current Business Environment.

This artifact should also contain:

P-2.5: Other: Add any other items that the Offeror believes should be brought to The Fund's attention that shows how the Fund will benefit from the proposed solution. This should include at least those items scattered through Section C of the RFP that mention this artifact.

P-2: Appendix 1– Live Chat: The Fund is interested in the Offeror's "Live Chat" capability. As an appendix to this artifact, Offeror should provide details of its "Live Chat" capability. Offeror should also share its experience as to the effectiveness of "Live Chat" as a channel of communications between a pension administration service provider and its membership. If the Offeror does not have a "Live Chat" capability, indicate this in this appendix. Appendix must not exceed 3 pages.
P-2: Appendix 2: Screen "snapshots": Offeror shall provide samples of screen snapshots from the proposed solution (See Section C.4.7.2).

Artifact P-2 must not exceed 50 pages (Exclusive of any Appendices).

ARTIFACT P-3, TECHNICAL SOLUTION OVERVIEW

In the Technical Solution Overview, Artifact P-3, Proposer must provide a technical overview of their proposed solution. It must address the following:

P-3.1: Multiple Environments: Describe the various computing environment that will be provided. Specify whether a particular environment is a physically distinct environment or part of a virtual environment. Provide a mapping of virtual environments to physical environments (see Section C.4.3)
P-3.2: Technical Architectural Topics: Explain how the proposed solution addresses the technical architectural topics discussed in Section C.4.4
P-3.3: Workflow Standards: Explain how the proposed solutions workflow sub-system conforms to the interface specifications of the Workflow Management Coalition (WfMC) and uses Business Process Execution Language (BPEL). See Section C.4.5.4.
P-3.4: Solution Sizing: Explain how the proposed solution was sized. Discussion should address server sizing, printer sizing, etc.
P-3.5: Solution Application Software: Describe the application attributes and answer the questions contained in Section C.4.7.2.
P-3.6: Relational Database Management Software: Discuss the proposed solutions use of an RDBMS. See Section C.4.7.4.4.
P-3.7: Modifications to Existing Data Center: Discuss any alterations to the current configuration of the current data center that will be required to support the Offeror's proposed solution, both the LOB and all options (including but not limited to physical floor space, air conditioning load, power requirements, fire suppression, smoke, water, and heat sensors). See Section C.4.8.
P-3.8: Planned Downtime: Explain how planned downtime issues can be minimized within the new solution (see Section C.4.9.4).
P-3.9: Recovery: Provide information on how the proposed solution recovers from failures (See Section C.4.9.5).
P-3.10: Operational Support: Discuss how operational support issues can be minimized within the new solution (see Section C.4.9.6).
P-3.11: Software Version Control: Discuss how software version control will be provided with the new solution (see Section C.4.10).
P-3.12: Remote Access: Discuss how the proposed solution would affect remote access for the groups itemized in Section C.4.11.1.
P-3.13: Data Security: Discuss how the proposed solution would manage the security of the Fund's data (see Section C.6.1).

P-3.14: Data Conversion: Discuss the strategy and methodology for data conversion and bridging and its compatibility with the methodology for the design and development of the LOB solution (see Section C.6.2.2).
P-3.15: Account Conversion: Discuss the issues raised in Section C.6.3.
P-3.16: On-line Help: Discuss how the proposed solution provides on-line help (see Section C.8.1.2).
P-3.17: Disaster Recovery Plan (DRP): Provide an outline of a DRP (see Section C.12.1).
P-3.18: Special Warranty Conditions: Offeror should confirm its agreement with the terms of the requirement stated in Section C.12.2.1.3.

This artifact should also contain:

P-3.19: Other: Add any other items that the Offeror believes should be brought to The Fund's attention that shows how the Fund will benefit from the technology of proposed solution.

P-3: Appendix 1– Workflow Standards Example: An example or sample demonstrating adherence to the standards addressed in Section P-3.2 of this artifact.
P-3: Appendix 2: Database Schema: Offeror shall provide the database schema (See Section C.4.7.2).
P-3: Appendix 3: Diagram of Data Center Alterations: See Section C.4.8.
P-3: Appendix 4: Sample Schematic/Network Diagram: See Section C.4.8.
P-3: Appendix 5: Provisional System Security Plan: Offeror must provide a provisional security plan as stated in Section C.12.2.1.3.

Artifact P-3 must not exceed 75 pages, exclusive of appendices.

ARTIFACT P-4, PROPOSED HARDWARE LIST

Offeror should complete the template provided as Attachment G-10, and include the completed template as Artifact P-4 of its proposal.

ARTIFACT P-5, PROPOSED SOFTWARE LIST

Offeror should complete the template provided as Attachment G-11, and include the completed template as Artifact P-5 of its proposal.

ARTIFACT I-1, KEY PROJECT PERSONNEL – RESUMES

Offeror should include a complete resume in Offeror's standard resume format for each Key Project Person. The resumes of all proposed Key Project Personnel shall be submitted as Artifact I-1 of its proposal.

ARTIFACT I-2, PROPOSER'S EXPERIENCE WITH PROPOSED SOLUTION

Offeror should complete a Client Experience Form, provided as Attachment G-7, for each client for which the Offeror has implemented the product being proposed to the Fund and include the completed Client Experience Forms as Artifact I-2 of its proposal.

ARTIFACT I-3, PROPOSER TEAM OVERVIEW

In this artifact, Offeror must provide information that gives the Fund information about the Offeror and any other entities that may be supporting the Offeror during this project. Specifically, this artifact should contain the following:

I-3.1: General Corporate Background: Offeror should provide information relating to the Offeror's corporate background, providing the following detailed information: and experience as it relates to projects similar in scope and complexity to the project described in this RFP.

- The name of the Offeror and the location of its principal place of business and all other offices, including the location of the office which will perform work on behalf of the Fund
- The names, titles and length of tenure of the top five officers of the company (or its subsidiary or operating division responsible for this project). For any whose time in the position is less than a year, provide the name of his or her predecessor and the reason for the change in position
- Any change in the ownership status of the company in the past three years (or any forthcoming change)
- The average number of employees over the past five years, the average number of full time employees, the average number of contract employees, and the average number of total employees (state explicitly the number of professional employees)
- Number of years in business
- Brief history of company, products, and services
- Company and product visions; must demonstrate commitment to product life and enhancement for at least eight years
- Industry innovations or best practices
- Number, nature and name of subsidiaries and operating divisions
- Where incorporated or otherwise legally established
- Representative client list.

The same information must be provided for all subcontractors (if any) or other third party providers of products or services.

In addition, for each subcontractor or other third party, the Offeror's proposal must include:

- A description of all work to be subcontracted to and/or products to be provided by third parties.
- Descriptive information relating to the nature and duration of the previous relationship of all subcontractors and/or third parties with the prime contractor.
- Explanation of any existing contractual relationships between the prime and subcontractors, or among subcontractors.

Failure to identify subcontractors may be grounds for rejection of the proposal or, after award, cancellation of the contract.

I-3.2: Specific Experience: Offeror should provide information relating to the Offeror's specific experience as it relates to projects similar in scope and complexity to the project described in this RFP.

I-3.3 Subcontractors: Offeror should provide information relating to the background and experience of any subcontractors, as it relates to projects similar in scope and complexity to the project described in this RFP. For any subcontractors, this section should contain at least the information required in Section A.3.4.2 of this RFP. Enter "Not Applicable" if the Offeror is not proposing any subcontractors.

I-3.4 Previous Experience with Subcontractors: Offeror should provide information related to any project in which the Offeror's corporate entity has worked together with any of the subcontractors' corporate entity. Enter "Not Applicable" if the Offeror is not proposing any subcontractors.

I-3.5 Key Personnel Working Together: Offeror should provide information related to any project on which more than one of the proposed Key Project Personnel has worked together.

Appendix:

Artifact I-3, Proposer Team Overview shall not exceed 20 pages exclusive of any appendixes.

ARTIFACT I-4, DRAFT TRAINING PLAN

Offeror must include, as Artifact I-4 of their proposal a Draft Training Plan that identifies the specific topics that will be covered in each training track. The Draft Training Plan must also identify the courses that will be provided, including a brief description of each course's content, and must include descriptions of any materials or facilities to be provided by the Fund, the training materials that will be delivered by the Offeror, and the number of hours required by the Fund's users for attending classroom sessions, training laboratories, and for independent study. The Draft Training Plan must demonstrate how the Offeror will meet the training requirements listed in Section C.9 and how the Offeror's training aligns with industry best practices. Proposers must attach a sample of training materials (limit 30 pages) to the Draft Training Plan.

ARTIFACT I-5, DRAFT PROJECT STAFFING PLAN
ARTIFACT I-6, DRAFT PROJECT STAFFING PLAN TABLES

Offeror should respond to Section C.7 of this RFP using two artifacts: Artifact I-5, Draft Project Staffing Plan and Artifact I-6, Draft Project Staffing Plan Tables. All narrative responses should be provided in Artifact I-5, and tabular responses to the manpower estimates discussed in Section C.7.1 in Artifact I-6. A template for Artifact I-6 is provided as Attachment G-12

ARTIFACT I-7, DRAFT PROJECT MANAGEMENT PLAN

In Artifact I-7 the Offeror should provide at least the following:

I-7.1 Project Management and Control Methodology, with examples (C.5.1.5)
I-7.2 Management of Written Deliverables (C.5.1.6.1)
1.7-3 Approach to the Tracking of Written Deliverables (C.5.1.6.3)
1.7-4 Approach to the Tracking of Software Releases (C.5.1.6.4)
1.7-5 Discussion of credit memos for eliminated requirements (C.5.3.5)

1.7-6 Confirmation that The Fund's approval of system design and/or specifications do not abrogate the RFP requirements (C.5.3.5)
1.7-7 GAP Analysis Methodology (C.5.3.5)
1.7-8 Discussion of Change Request Reporting (CRR) system for managing and facilitating change requests (C.5.3.6.4)
1.7-9 Risk Management Methodology (C.5.3.8)
1.7-10 List of top ten risks foreseen on project (C.5.3.8)
1.7-11 Discussion of Delivery Repository (C.5.3.9)

Offeror is encouraged to provide any additional information that demonstrates that Offeror will provide the project management necessary to ensure a successful implementation. For example, information on:

- Fund/Offeror collaboration
- Schedule Management
- Quality Management
- Communications Management

Artifact I-7 should contain at least the following appendices:

Appendix I-7-A: List of documentation delivered with system (C.4.7.2)
Appendix I-7-B: Samples showing Approach to the Tracking of Written Deliverables (C.5.1.6.3)
Appendix I-7-C: Sample Status Report (C.5.3.2)
Appendix I-7-D: Sample of Executive Level Status Report (C.5.3.3)
Appendix I-7-E: Draft Data Conversion Plan (C.6.2.1)

Offeror is encouraged to provide any additional samples that would be of interest to the Fund.

Artifact I-7 must not exceed 50 pages (Exclusive of any Appendices and samples).

ARTIFACT I-8, LIST OF STANDARD PROJECT REPORTS

Artifact I-8 should contain a list of the standard set of reports that are delivered with the product being proposed. An Appendix to Artifact I-8 should contain samples of some of the reports. Sample reports should at least contain a sample of the member's annual statement, calculation worksheet produced by the proposed system, and a standard audit trail history report.

ARTIFACT I-9, LIST OF PROJECT MANAGEMENT MEETING

Artifact I-9 should contain a list of project management meetings that Offeror believes are important to the success of the project. For each meeting listed, Offeror should discuss:

- The frequency at which the meetings should be held
- The duration of the meeting

- The expected attendees
- Which party would be responsible for the meeting agenda
- Which party would be responsible for the meeting minutes

For any meeting that is specifically mentioned in the RFP (e.g., Steering Committee Meeting – see Section C.5.3.4), this list should be consistent with the requirements stated in the RFP.

ARTIFACT I-10, INITIAL PROJECT WORK PLAN WITHOUT OPTIONS
ARTIFACT I-11, INITIAL PROJECT SCHEDULE WITHOUT OPTIONS

The requirements for Artifacts I-10 and I-11 can be found in Section C.5.1.8.1 of the RFP.

ARTIFACT I-12, SDLC METHODOLOGY OVERVIEW

Fully describe the methodology to be used during the implementation of the pension solution. Specifically show how this methodology meets all Fund needs detailed in Sections C.5.1.6 through Section C.5.1.8.3.

The artifact must at least address those areas where this artifact is referenced in the RFP.

Appendices:

List of project deliverables as discussed in Section C.2.
Scenarios for Conference Room Pilots as discussed in Section C.5.2.4.
Sample Test Plan as discussed in Section C.10

This Artifact is limited to 30 pages (exclusive of appendices).

ARTIFACT I-13 DRAFT FUNCTIONAL ROLLOUT PLAN

This artifact should address the functional rollout proposed by the Offeror, as required in Section C.5.1.7.

This artifact is limited to 20 pages.

ARTIFACT I-14, PROBLEM INCIDENT REPORTING (PIR) PROCESS

This artifact should address the PIR process proposed by the Offeror, as required in Section C.5.3.7.

This artifact is limited to 5 pages.

ARTIFACT I-15, TRANSITION SUPPORT

This artifact should detail the transition support to be provided by the Offeror as detailed in Section C-11.

ARTIFACT I-16 – PROPOSER'S KEY PROJECT PERSONNEL REFERENCES

Offeror should complete the template (Resume Summary and Reference Form) provided as Attachment G-4 for each individual identified as a Key Project Person. These templates should be provided as Artifact 1-16 – Proposer's Key Project and Personnel References.

ARTIFACT I-17 – PROPOSER'S CUSTOMER REFERENCES

Offeror should complete the template (Client Reference Form) provided as Attachment G-8 for at least three former or current clients of the Offeror whom the Fund can contact as a reference for the Offeror. These references should all be clients with which the Offeror has had a business relationship within the last five years. These templates should be provided as Artifact 1-17 – Proposer's Customer References.

ARTIFACT I-18 – LIST OF CUSTOMERS

Offeror should complete the template G-9 (Customer List Form) for between 1 and 5 additional customers that are using the product being proposed. These customers should not be the same customers cited as customer references in Artifact I-17. These additional customers will be considered by the Fund as potentially additional references or as sites that may be visited during the evaluation of the proposals (see Section E.2.2.4.5).

ARTIFACT OP-1, HARDWARE PROCUREMENT

This artifact should address Option 1: Hardware Procurement, as detailed in Section C.13.1C.13.1.

ARTIFACT OP-2, COMMODITY SOFTWARE PROCUREMENT

This artifact should address Option 2: Commodity Software Procurement, as detailed in Section C.13.2.

ARTIFACT OP-3, BACKFILE CONVERSION

This artifact should address Option 3: Backfile Conversion, as detailed in Section C.13.3.

ARTIFACT OP-4, POST-IMPLEMENTATION SUPPORT

This artifact should address Option 4: Post-Implementation Support, as detailed in Section C.13.4.

ARTIFACT OP-5, INTERACTIVE VOICE RESPONSE

This artifact should address Option 5: Interactive Voice Response, as detailed in Section C.13.5.

ARTIFACT OP-6, FINANCIAL MANAGEMENT/ACCOUNTING SYSTEM

This artifact should address Option 6: Financial Management/Accounting System, as detailed in Section C.13.6.

ARTIFACT OP-7, INITIAL PROJECT WORK PLAN INCLUDING OPTIONS
ARTIFACT OP-8, INITIAL PROJECT SCHEDULE INCLUDING OPTIONS

These artifacts are the same as Artifacts I-10 and I-11, with the exception that they presume that the Fund will exercise all options.

PART B OFFEROR RESPONSE TO PROJECT SCOPE

PART B of the proposal will contain the Offeror's response to the project scope. It is to include all of the sections of PART B of the RFP, numbered identically. Each section of PART B of the proposal will provide a complete response to the corresponding section of the RFP.

E.1.2 COST PROPOSAL FORMAT

The cost proposal shall identify all costs associated with the project.

Note: When the term "Mandatory Project Elements" is used in this section, it refers to all hardware, software and services to be provided by the Offeror during the course of the proposed project. It specifically excludes all hardware, software and services associated with options.

Adherence to and consistency with the work plan are considered critical acceptance criteria for any phase.

The Offeror should bear in mind that the proposed cost will become part of a firm, fixed cost contract between the Offeror and the Fund. By "firm, fixed cost contract," the Fund means that the cost proposed by the Offeror can only change if the scope of the effort changes: specifically, if there is a change in requirements or services described in this RFP. A change in the duration required to meet all of the requirements and provide all of the services described in this RFP, without a change in the scope, will not change the cost of the contract.

The Offeror should further bear in mind the specific terms and conditions presented in Section D when preparing its cost schedules. In addition, the Fund provides the following reminders:

- Offerors must include in the cost proposal a summary, by staff position, of the number of hours and the hourly rate for all support services included in the proposal.
- The Offeror must include its "D-U-N-S®" (Dun and Bradstreet) number on the cover page of the hardcopy submission of the cost proposal.
- Offeror's cost information will be evaluated on the basis of its consistency with the information provided in the Offeror's technical proposal. All calculations in Offeror's cost schedules will be verified for correctness.
- Any proposal for which a fixed-dollar proposal amount cannot be precisely determined may be considered a non-responsive proposal and may be rejected by the Fund.

For terms relating to invoicing and payments, please refer to Section D.1.5.

Information on the schedules for presenting the Offeror's cost proposal is provided on the following pages. Offerors should add line items to the cost schedules as necessary to include all project costs and suitable breakdowns. The template to be used in providing the cost proposal is provided as Attachment G-14, Cost Proposal Template. This attachment contains worksheets that are defined below. All subtotals and totals will be computed automatically.

Following is a list of the cost schedules contained in the Cost Proposal Template that must be completed and a description of the information to be provided in each:

Note that the cost schedules provided allow for up to five years of cost data. Offeror should only complete the cost data coinciding with the proposed duration of the project. If the Offeror proposes a three year project, there should be no data in Years 4 and 5 of the cost schedules. If the Offeror feels that more than 5 years is needed, the Offeror should add more columns, as necessary. If columns are added, it is the Offeror's responsibility to ensure that all totals in the cost schedules are correct). The "Warranty Period" is the 12 month period following the end of the project.

NYCPPF Bid Summary

On this worksheet, fill in the Offeror name. All other entries will be automatically populated based on the Offeror entries in Schedules 1 through 3.

Schedule 1 – Hardware Costs for Mandatory Project Elements

Enter all hardware components required to affect the mandatory portion of the proposed solution. Fund IT personnel will distinguish components that already exist at the Fund versus upgrades required to existing equipment versus new components. Include servers, hubs, routers, workstations (desktop PCs), uninterruptible power supplies, cables, connectors, labels, and equipment racks. For each required item, provide the manufacturer, model, a description, the quantity, and the unit cost. Cost extensions and totals will be computed automatically.

Schedule 2 – Commodity Software Costs for Mandatory Project Elements

Enter all commodity software products required to affect the mandatory portion of the proposed solution. Distinguish software that already exists at the Fund versus upgrades required to existing software versus new software products. Include all required products such as operating systems, network software, database management software, software tools, and office suite software. For each required item, provide the manufacturer, model, a description, the number of copies required, and the unit cost. Cost extensions and totals will be computed automatically.

Schedule 3 – Services

This schedule consists primarily of service related costs to implement the mandatory portion of the proposed solution. For each area of service section (e.g., Requirements Analysis, Software Modifications Development), list the applicable staff positions, number of hours, and hourly rates. Hourly rates must be fully loaded to capture all direct and overhead expenses, travel, per diem, and any other travel-related expenses

When filling in the Training section of the spreadsheet, be sure to include the cost for the Fund's IT staff travel if any IT training will be conducted outside the New York City area (see Section C.9).

At the bottom of the schedule, enter the following incremental costs where indicated:

Schedules 4 – 9 Options 1-6

Schedules 4-9 should be used to provide cost data for options 1 -6. The options are explained in Sections C.13.1 through C.13.6.

Schedule 10 – Cost Estimate by Project Phase

Enter cost figures for the project phases assuming mandatory project elements only. The first three preliminary phases have been defined in the RFP. Offerors should add the functional rollout phases they propose and enter costs accordingly. Please note that the total of Schedule 10 should be equal to the total of Mandatory Project Elements of Bid Summary. The Fund has provided a checksum in Schedule 10 for the convenience of the Offeror. The checksum subtracts the Total (cost by phase) in Schedule 10 from

the Total of the Mandatory Project Elements. If the checksum is zero ($0) the two schedules align. If not zero, the Offeror there is an error that should be fixed by the Offeror.

SCHEDULE 11 – COST ESTIMATE BY PAYMENT POINTS

Enter cost figures for the project payment points (see Section D.1.5) assuming mandatory project elements only. Please note that the total of Schedule 11 should be equal to the total of Mandatory Project Elements of Bid Summary. The checksum subtracts the Total (amount of the payments) in Schedule 11 from the Total of the Mandatory Project Elements. If the checksum is zero ($0) the two schedules align. If not zero, the Offeror there is an error that should be fixed by the Offeror. The Fund has provided a checksum in Schedule 11 for the convenience of the Offeror. Although all payments are subject to a 15% holdback, the pay point amounts reflected in this schedule should be the total amount (no holdback).

E.2 PROPOSAL EVALUATION

The Fund will evaluate the proposals received based on a best-value approach. A *best-value approach* is an established process that, when followed, provides a systematic and logical method for forming a decision. A best-value procurement is one that depends not just on cost but includes balancing functionality, risks, benefits, and costs. The particular methods described in this document will result in the best-value for the Fund for the function to be performed – i.e., pension system administration processing. When followed, the methodology will determine which of the Offerors, in the opinion of the Fund, is proposing the best-value solution.

E.2.1 EVALUATION CRITERIA

The Fund views the selection of the pension solution as focused on three major criteria:

- Product: The functionality of the pension solution being proposed.
- Implementation: A combination of the personnel, corporate experience, and methodology being proposed.
- Cost: The cost of the pension solution being proposed.

Furthermore, the Fund desires that the product and the implementation of the pension solution meet some minimum level of quality (as measured by the scoring found in this document) before assessing the cost of the pension solution.

The total number of points available during the evaluation process is 1,000.

The Fund has determined that it considers the implementation as the most important criterion and has allocated that criterion 42.5% of the entire number of points available during the evaluation. The product has been allocated 32.5%, and the cost has been allocated 25%.

The evaluation process involves two rounds of evaluation which will be explained more fully in Section E.2.2.

The Fund has also determined that Round 2, which involves contact with the product and the proposed implementation team, is more important that Round 1 which evaluates only the written materials received from the Proposers. As such, it has allocated a larger percentage of the product and implementation points (the only two criteria evaluated during both rounds) to Round 2. It should be noted that all artifacts that start with the letter “P” are used in the product evaluation; all artifacts that begin with the letter “I” are used in the Implementation evaluation.

The following table shows these criteria and the points associated with each of these criteria for each round in which they are used.

CRITERIA	POINTS ROUND 1	POINTS ROUNDS 2	TOTAL POINTS
Product	150	175	325
Implementation	175	250	425
Cost	N/A	250	250
TOTAL	325	675	1,000

Table E-1: Proposal Evaluation Criteria

E.2.2 EVALUATION METHODOLOGY SUMMARY

During the evaluation process, all contact between the Fund and the Offerors will be through the authorized agency point of contact identified in Section A.3.1 of this RFP.

Presented herein is an overview of the evaluation methodology being used for this procurement.

E.2.2.1 Evaluation Team

An Evaluation Team will be established consisting of members of the Fund's management team and subject matter experts. The Evaluation Team will be supported by other subject matter experts and consultants, as requested by the Evaluation Team. When the committee has completed the evaluation process, the committee chairperson will make a recommendation of award to the Fund's Executive Director.

E.2.2.2 Initial Activities

When the proposals are received by the Fund, they will be pre-qualified to ensure that all minimal requirements established by the Fund in this RFP are met. Those proposals that meet the minimum requirements will proceed to Round 1 of the evaluation process.

E.2.2.3 Round 1

During Round 1 of the evaluation process, the Fund will evaluate and score the artifacts received from the Offeror's.

If during the course of this Round 1, the Fund determines that additional clarification is required from the Offeror, the Fund may ask the Offeror for clarification. The request for clarification will be made by e-mail. Offerors shall have 48 hours to respond to the Fund's request electronically and follow up with the original signed documents within three (3) business days from the date of request. If the original hardcopy is not received within the specified timeframe, the Fund may deem the proposal non-responsive. If the response from the Offeror requires additional clarification, the process will be performed again.

The Fund has established a threshold that must be met for a proposal to advance to Round Two. The established threshold is 70% of the total points available to be awarded during Round 1. However, the Fund will advance at least two proposals to Round 2.

Cost will not be evaluated during Round 1.

E.2.2.4 Round 2

Round 2 of the proposal valuation will consist of the following:

E.2.2.4.1 Customer Reference Checks

For each customer from whom the Fund requests a reference, the Fund may contact both the business and the technology points of contact provided. These references checks will be made by telephone or e-mail, at the Fund's discretion.

The Fund reserves the right to contact other customers of the Proposer. If the Fund were to contact additional references, it would do so for all Offerors. The number of references contacted will be the same for all Offerors.

E.2.2.4.2 Offeror Key Project Personnel Reference Checks

Key project personnel references checks will be made in written form or by telephone, at the Fund's discretion.

The Fund reserves the right to contact other individuals who can provide information on any key project personnel. If the Fund were to contact additional references, it would do so for all Offerors. The number of references contacted will be the same for all Offerors.

E.2.2.4.3 Solution Demonstrations

Each Offeror who reaches Round 2 of the evaluation process will be asked to demonstrate the proposed solution using demonstration scenarios developed and provided by the Fund. The Fund will coordinate with the Offeror to set up a date for the demonstrations and to advise the Offeror as to the Fund's technical capability to support the demonstrations.

The purpose of the demonstrations is to allow the Fund:

- To observe the Pension Solution being proposed with emphasis on:
    - Its overall capabilities.
    - How well it handles many of the Fund day-to-day activities.
    - Ease of application use and configuration
    - Configuration, modification, and extension flexibility
    - How well the major functional components are integrated

- To observe the proposed Key Project Personnel participating in the demonstration, and determine their:
    - Subject matter expertise
    - Ability to explain complex concepts
    - Ability to work together as a team

The Fund will ask each Offeror to demonstrate a fixed set of scenarios, which will be provided to the Offeror prior to the to the scheduled demonstrations. Additionally, the Evaluation Team may decide to provide specific scenarios to a specific Offeror, addressing items specific to the proposal being evaluated. If specific scenarios are requested to be performed by one Offeror, specific scenarios will be requested to be performed by all Offerors. The same number of specific scenarios will be requested from all Offerors. These specific scenarios will also be sent to the Offerors prior to the scheduled demonstrations.

Each Offeror will be required to provide solution demonstrations to the Fund over two consecutive days. An agenda for the demonstrations will be provided prior to the scheduled demonstrations. Offerors are required to demonstrate their solution at the Fund's headquarters building.

The Fund requires that the proposed Project Manager be the "Chief Facilitator" at the Solution Demonstrations, providing the corporate overview for the demonstration scenarios. In addition, the Fund requires that the proposed Assistant Project Manager and other key project personnel, and additional key roles as needed for the demonstration, actually deliver the demonstration.

E.2.2.4.4 Offeror and Key Project Personnel Interviews

The Fund will determine the individuals to be interviewed. These interviews will take place in conjunction with the Solution Demonstrations. These interviews will be conducted at the Fund's Headquarters.

E.2.2.4.5 Customer Site Visits

The Fund will identify the one or two customers, most similar to the Fund that use the Offeror's proposed solution. The number of customers visited will be the same for each Offeror still under consideration in Round 2. The Fund will select a site that best matches the Fund's size and complexity characteristics. The duration of the visit to any customer site will not exceed one day. Although the Fund would prefer that the customers being visited have the solution in production, this is not an absolute necessity. If the solution is in production, this visit will provide an opportunity to view the actual system that was seen in the demonstrations and to talk to the staff involved in the day-to-day operations as well as the system rollout. The agenda for the visit will be provided to the customer to be visited in advance of the visit.
The Fund will schedule the site visits through the Offeror or directly with the customer themselves. The Offeror will not attend the customer visits. The Fund will provide the customer to be visited with a visit agenda about two weeks prior to the scheduled visit.

E.2.2.4.6 Cost Evaluation

Each cost proposal will be analyzed and then scored by the Procurement Office. The costs for the options, will also be analyzed at this time, but will not be used in determining a cost score.

If calculation errors or Cost Workbook omissions are identified, the Fund may contact Offeror to request clarification. The Offeror shall have 48 hours to respond to the Fund's request electronically and follow up with the original hardcopy Cost Workbook within three business days from the date of request. If the

original hardcopy is not received within the specified timeframe, the Fund may deem the proposal non-responsive.

E.2.2.4.7 Scoring Round 2

The Evaluation Team will consolidate all the Round 2 scores, except the cost scores, to create a proposal score, using the Round 2 Consolidated Scoring Working Papers. It also includes reviewing the proposals scorings against each other to ensure that all proposals were evaluated against the same standard.

E.2.2.5 Determining a Final Score

Following that, the Procurement Office will add the cost score obtained from the Cost Evaluation. This yields the Total Proposal score which will be used by the Evaluation Team to select the finalists who will move to the BAFO process. At any point during this consolidation, the Evaluation Team may call upon any of the other Subject Matter Experts and Consultants who have been involved in the evaluation process, should their support be needed.

All other Proposers will be removed from consideration and informed by the Procurement office.

E.2.2.6 Best and Final Offers

The goal of the BAFO process is to end up with a contract that the Fund and the Offeror who advances this far in the evaluation process is ready to execute. The total time of BAFO negotiations is to be determined by the Fund and will be the same for all Offerors with which the Fund has entered into BAFO negotiations.

The BAFO process consists of the following steps which will be executed for each Offeror who advances to BAFO:

E.2.2.6.1 Developing the Agenda for BAFO Confidential Negotiations

The Fund will identify those areas they would like to discuss with the Offeror. The agenda will contain items the Fund wants to negotiate.

Specifically excluded from BAFO discussions are those sections of the Terms and Conditions that the Fund has designated as non-negotiable.

The Offeror will be provided an opportunity to identify items that it would like to add to the BAFO Confidential Negotiations agenda.

The Fund will distribute the BAFO negotiating agenda to the Offeror, and schedule the confidential negotiations.

Each session of the BAFO negotiations will have its own agenda.

E.2.2.6.2 Confidential Negotiations

The Fund will designate a BAFO Negotiating Team. At the time scheduled, the BAFO Negotiation Team and the Evaluation Team Chairperson will meet and conduct confidential negotiations covering those items that are on the agenda. The primary role of the BAFO Negotiation Team will be to negotiate and arrive at an executable contract. The BAFO Negotiation Team will be supported by the Evaluation Team and the additional subject matter experts and consultants to provide expert advice to the members of the BAFO Negotiation Committee. After the discussions, the Fund will ask the Offeror to resubmit a redlined version of the previously submitted proposal. The Fund will provide each Offeror an equal amount of time to prepare a BAFO submission. At the Fund‘s option, they may consider the BAFO submission as a draft and request that it be followed by a final BAFO submission.

E.2.2.6.3 BAFO Submission

The BAFO Negotiation Team will, upon its receipt, review the BAFO submission to ensure that no other changes to the proposal have been made other than those discussed during the confidential negotiations. If the BAFO submission contains areas that need clarification, the Fund, at its discretion may consider the BAFO submission a Draft BAFO submission. In that case, the Procurement Office, working with the BAFO Negotiation Committee, will issue a written correspondence to the Offeror identifying the areas needing clarification in the Draft BAFO submission and allow the Offeror one week to provide clarification and a Final BAFO submission. If the Fund does not require clarification of any items in the Draft BAFO submission, it becomes the Final BAFO submission.

The Best and Final Offer submission shall be provided in both a clean and a redlined version of the previously submitted proposal. Based on what has changed, the BAFO Negotiating Committee and the Evaluation Team will review the BAFO submission with assistance from the subject matter experts and consultants, if needed.

E.2.2.7 Selecting the Successful Offeror

The BAFO Negotiation Team and the Evaluation Team will meet and discuss the results of the review of the BAFO submissions and select the successful Offeror and evaluate and select the options. The successful Offeror will be required to submit the Initial Project Work Plan and Schedule – Version 2 and the contract will be finalized.

E.2.2.8 Evaluation and Selection Report

Under the leadership of the Evaluation Team Chairperson, a report providing detailed evaluation information and how that information resulted in the selection of the successful Offeror will be prepared. This report will be provided to the Executive Director for his review and approval.

E.2.2.9 Pre- Recommendation for Award Approvals

The Procurement Office must obtain the Depart of Investigations and DLS Clearance reports prior to recommending a vendor for award.

E.2.2.10 Board Approval

Assuming full approval within the Fund, the Fund's Executive Director will request the Board of Trustees for its approval and budget appropriation to enter into a contract, subject to the approval of the New York City Office of the Corporation Counsel, for the Pension Solution with the successful Offeror.

E.2.2.11 Contract Clean-Up

The BAFO Negotiations Committee will select and negotiate the options and conduct final contract clean-up, if needed, with the successful Proposer. Because the contract negotiations occurred during the BAFO process it is expected that contract clean-up should be completed quickly. At the conclusion of the contract clean-up, the Fund will submit the contract to the New York City Office of the Corporation Counsel for final approval. Once approved, the Fund will expect to sign a contract with the selected vendor.