



# Service Organization Control (SOC 1<sup>SM</sup>) Report on the Suitability of the Design and Operating Effectiveness of Controls

NextGen MBS Pension Management System (NextGen)  
For the Period January 1, 2014 to April 15, 2015

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# I. Independent Service Auditor's Report



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## Independent Service Auditor's Report

### **To the Board of Trustees of the Texas Municipal Retirement System:**

#### Scope

We have examined the Texas Municipal Retirement System's (TMRS) description of their NextGen MBS pension management system (NextGen) for processing of contributions received from employers and distributions to members of the pension plan throughout the period January 1, 2014 to April 15, 2015 (description) and the suitability of the design and the operating effectiveness of TMRS' controls to achieve the related control objectives stated in the description. The description indicates that certain control objectives specified in the description can be achieved only if complementary user entity controls contemplated in the design of TMRS' controls are suitably designed and operating effectively, along with related controls at the service organization. We have not evaluated the suitability of the design or the operating effectiveness of such complementary user entity controls.

#### Service organization's responsibilities

In its description, TMRS has provided its assertion about the fairness of the presentation of the description, the suitability of the design and the operating effectiveness of the controls to achieve the related control objectives stated in the description. TMRS is responsible for preparing the description and for the assertion, including the completeness, accuracy, and method of presentation of the description and the assertion, providing the services covered by the description, specifying the control objectives and stating them in the description, identifying the risks that threaten the achievement of the control objectives, selecting and using suitable criteria, and designing, implementing, and documenting controls to achieve the related control objectives stated in the description.

#### Service auditors' responsibilities

Our responsibility is to express an opinion on the fairness of the presentation of the description, the suitability of the design and the operating effectiveness of the controls to achieve the related control objectives stated in the description, based on our examination. We conducted our examination in accordance with attestation standards established by the American Institute of Certified Public Accountants. Those standards require that we plan and perform our examination to obtain reasonable assurance about whether, in all material respects, the description is fairly presented, the controls were suitably designed and the controls were operating effectively to achieve the related control objectives stated in the description throughout the period January 1, 2014 to April 15, 2015.



An examination of a description of a service organization's system and the suitability of the design and operating effectiveness of the service organization's controls to achieve the related control objectives stated in the description involves performing procedures to obtain evidence about the fairness of the presentation of the description and the suitability of the design and the operating effectiveness of those controls to achieve the related control objectives stated in the description. Our procedures included assessing the risks that the description is not fairly presented and that the controls were not suitably designed or operating effectively to achieve the related control objectives stated in the description. Our procedures also included testing the operating effectiveness of those controls that we consider necessary to provide reasonable assurance that the related control objectives stated in the description were achieved. An examination engagement of this type also includes evaluating the overall presentation of the description and the suitability of the control objectives stated therein, and the suitability of the criteria specified by the service organization and described in management's assertion. We believe that the evidence we obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

#### Inherent limitations

Because of their nature, controls at a service organization or subservice organization may not prevent, or detect and correct, all errors or omissions in processing or reporting transactions. Also, the projection to the future of any evaluation of the fairness of the presentation of the description, or conclusions about the suitability of the design or operating effectiveness of the controls to achieve the related control objectives is subject to the risk that controls at a service organization or subservice organization may become inadequate or fail.

#### Opinion

In our opinion, in all material respects, based on the criteria described in TMRS' assertion, (1) the description fairly presents the NextGen system that was designed and implemented throughout the period January 1, 2014 to April 15, 2015, (2) the controls related to the control objectives stated in the description were suitably designed to provide reasonable assurance that the control objectives would be achieved if the controls operated effectively throughout the period January 1, 2014 to April 15, 2015, and user entities applied the complementary user entity controls contemplated in the design of TMRS' controls throughout the period January 1, 2014 to April 15, 2015, and (3) the controls tested, which together with the complementary user entity controls referred to in the scope paragraph of this report, if operating effectively, were those necessary to provide reasonable assurance that the control objectives stated in the description in section III were achieved, operated effectively throughout the period January 1, 2014 to April 15, 2015.

#### Description of tests of controls

The specific controls and the nature, timing, extent, and results of the tests are listed in section IV.



Restricted use

This report, including the description of tests of controls and results thereof in section IV, is intended solely for the information and use of TMRS, its user entities, and the independent auditors of the user entities who have a sufficient understanding to consider it, along with other information including information about controls implemented by user entities themselves, when assessing the risks of material misstatements of user entities' financial statements. This report is not intended to be and should not be used by anyone other than these specified parties.

KPMG LLP

May 7, 2015

## II. The Texas Municipal Retirement System's Management Assertion



## The Texas Municipal Retirement System's Management Assertion

We have prepared the description of Texas Municipal Retirement System's (TMRS, or the System) NextGen MBS pension management (NextGen) system (description) for user entities of the system during some or all of the period January 1, 2014 to April 15, 2015, and their auditors who have a sufficient understanding to consider the description, along with other information, including information about controls operated by user entities of the system themselves, when assessing the risks of material misstatements of user entities' financial statements. We confirm, to the best of our knowledge and belief that:

- a. The accompanying description in section III fairly presents the NextGen system made available to user entities of the system during some or all of the period January 1, 2014 to April 15, 2015, for processing their transactions. The criteria we used in making this assertion were that the accompanying description:
  - i. Presents how the system made available to user entities of the system was designed and implemented to process relevant transactions, including:
    - The types of services provided, including, as appropriate, the classes of transactions processed;
    - The procedures, within both automated and manual systems, by which those transactions were initiated, authorized, recorded, processed, corrected as necessary, and transferred to the reports prepared for user entities;
    - The related accounting records, supporting information and specific accounts that were used to initiate, authorize, record, process and report transactions; this includes the correction of incorrect information and how information was transferred to the reports prepared for user entities;
    - How the system captured and addressed significant events and conditions, other than transactions;
    - The process used to prepare reports or other information for user entities;
    - Specified control objectives and controls designed to achieve those objectives;
    - Controls that we assumed, in the design of the system, would be implemented by user entities, and which, if necessary to achieve control objectives stated in the accompanying description, are identified in the description along with the specific control objectives that cannot be achieved solely by controls implemented by us; and

- Other aspects of our control environment, risk assessment process, information and communication systems (including the related business processes), control activities, and monitoring controls that were relevant to processing and reporting user entities' transactions.
  - ii. Does not omit or distort information relevant to the scope of the NextGen system being described, while acknowledging that the description was prepared to meet the common needs of a broad range of user entities and their independent auditors and may not, therefore, include every aspect of the NextGen system that each individual user entity may consider important in its own particular environment.
- b. The description includes relevant details of changes to the NextGen system during the period covered by the descriptions.
- c. The controls related to the control objectives stated in the accompanying description were suitably designed and operated effectively throughout the period January 1, 2014 to April 15, 2015, to achieve those control objectives. The criteria used in making this assertion were that:
  - i. the risks that threatened achievement of the control objectives stated in the description were identified.
  - ii. the identified controls would, if operated as described, provide reasonable assurance that those risks did not prevent the stated control objectives from being achieved.
  - iii. the controls were consistently applied as designed, including whether manual controls were applied by individuals who have the appropriate competence and authority.

Texas Municipal Retirement System

May 7, 2015

### III. Description of the System Provided by the Texas Municipal Retirement System

# Overview of Operations Related to the NextGen MBS Pension Management System

The Texas Municipal Retirement System (TMRS, or the System) is an entity created by the State of Texas and administered in accordance with the TMRS Act (Title 8, Subtitle G, Texas Government Code), as a retirement system for municipal employees in the State of Texas. TMRS is a public trust fund governed by a Board of Trustees; although the Governor, with the advice and consent of the Senate, appoints the Board, TMRS is not fiscally dependent on the State of Texas. The System bears a fiduciary obligation to its members and their beneficiaries.

TMRS, for reporting purposes, is a statewide agent multiple-employer public employee retirement system that currently administers over 860 nontraditional, joint contributory, hybrid defined benefit plans covering all eligible employees of member cities in Texas.

## **Administration**

The TMRS Act entrusts the administration of TMRS to a six-member Board of Trustees, appointed by the Governor with the advice and consent of the Senate.

The TMRS Act requires regular Board meetings in March, June, September, and December of each year; the Board has also elected to conduct additional meetings in February, May, August and October of each year. The Board of Trustees employs investment, actuarial, legal, and other experts for the efficient administration of the System. The Board also appoints committees to serve it in advisory roles as needed.

The Board appoints an Executive Director to manage TMRS under its supervision and direction.

## **Membership in the System**

Throughout the document, “Cities”, “Participating cities” and “Participating municipalities” will be used; all references are identical in meaning, to describe the entities or employers that are participants in the System. To participate in TMRS, the employer must be either an incorporated municipality or department(s) thereof. TMRS (Administration) and the Texas Municipal League units were given status as a city within the TMRS Act.

Cities voluntarily elect to participate in TMRS by an ordinance adopted by the municipality’s governing body. However, once a municipality has elected to participate, the TMRS Act requires that every individual that meets the definition of “employee” must participate in the System as a condition of employment.

When a city joins TMRS, all of its eligible employees become members of the System. An employee in a position that normally requires at least 1,000 hours of work in a year, as determined by the city, is an eligible employee and is required to be a member of TMRS.

TMRS member cities designate, by ordinance, the rate of member contributions for their employees. This rate is 5%, 6%, or 7% of an employee's gross compensation. Three cities have a 3% rate, no longer available to cities under the TMRS Act. Compensation for retirement contribution purposes includes overtime pay, car allowances, uniform allowances, sick leave, vacation pay, and other payments if they are taxable.

All member contributions since 1984 are tax-deferred under the Internal Revenue Code, pursuant to Sections 401(a) and 414(h)(2). The member contribution rate may be increased by ordinance. However, the member contribution rate may only be reduced if the members in the city, by a 2/3 vote, consent to a reduction, and the city, by ordinance, provides for the reduction.

Interest is credited to member accounts annually on December 31 at a minimum 5% rate, based on the balance in the account on January 1 of that year. In the year of retirement, interest is prorated for the months of service in that year.

Upon an employee's retirement, the employing city matches the accumulated employee contributions plus interest earned. Each city chooses a matching ratio: 1 to 1 (100%); 1.5 to 1 (150%); or 2 to 1 (200%). This match is funded with monthly contributions by the participating municipality at an annual, actuarially determined rate. A municipality may elect to increase or reduce its matching ratio effective January 1 of a calendar year.

A person who leaves employment with all TMRS cities may withdraw all member deposits and interest from TMRS and cancel service credit with the System. A member may not refund his/her TMRS account unless there is a "bona fide" separation, and the employing city must certify that the employee has terminated employment.

After applying for retirement, a TMRS member may choose one of seven optional monthly benefit payments. The member makes this choice before receipt of the first benefit payment, and the choice is irrevocable after the date the first payment becomes due. All options pay a monthly annuity for the life of the retiree. The options include:

- A benefit for the retiree's lifetime only ("Retiree Life Only" option)
- Three guaranteed-term benefits that pay a benefit for the lifetime of the member and to a beneficiary for the balance of 5, 10, or 15 years if the member dies before the term is reached ("Guaranteed Term" options)
- Three options that pay a lifetime benefit to the member and, upon the member's death, a survivor lifetime benefit equal to 50%, 75%, or 100% of the member's benefit ("Survivor Lifetime" options)

As a minimum benefit, TMRS guarantees that an amount equal to at least the member's contributions and interest will be returned, either through payment of a monthly benefit or through a lump-sum refund.

Members who are eligible for service retirement may choose to receive a Partial Lump Sum Distribution, a portion of the member's deposits and interest in cash, at the time of retirement.

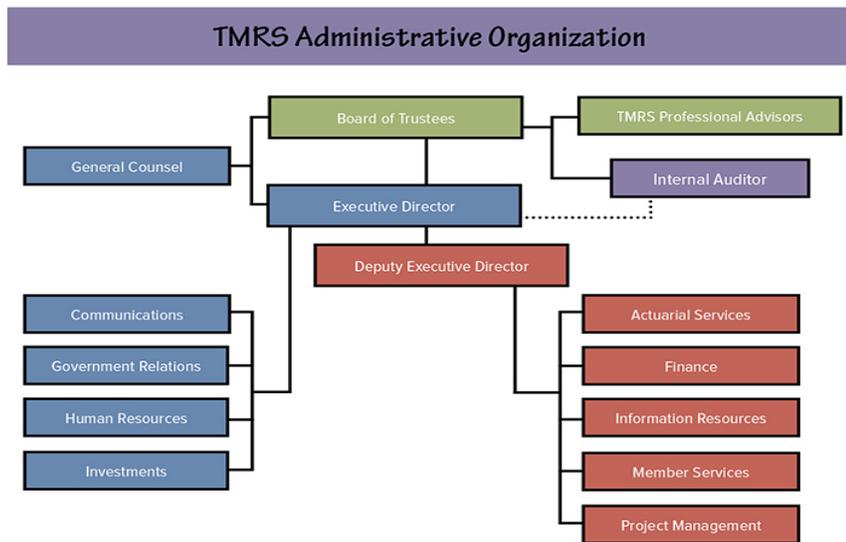
All active TMRS cities have adopted an Occupational Disability Retirement benefit. If a member is judged by the TMRS Medical Board to be disabled to the extent that the member cannot perform his or her occupation, and the disability is likely to be permanent, the member may retire with a lifetime benefit based on the total reserves as of the effective date of retirement.

### Organizational Departments

The TMRS Board of Trustees selects an Executive Director to plan and direct all activities of the System and to carry out the policies of the Board in an efficient and responsive manner.

The Deputy Executive Director coordinates the System’s administrative and operational departments to ensure strategic plan and policy implementation and membership satisfaction. The Deputy Executive Director serves as the System’s Chief Operating Officer and directs the operations of the Member Services, Information Resources, Finance, Actuarial Services and Project Management Departments.

The organization is divided into various departments, as noted in the organization chart below:



### Actuarial Services

TMRS’ Director of Actuarial Services (in-house actuary) provides actuarial input to teams and staff and prepares data for member cities for the analysis of plan design and potential changes. The in-house actuary also reviews the consulting actuarial information, creates tools to enhance tasks and enable the decision-making process, acts as the subject matter expert in the legislative and technical areas, communicates with and provides technical assistance to member cities and acts as liaison between the consulting actuary, staff and the Board.

## **Communications**

This department, led by the Director of Communications, ensures the delivery of efficient and effective communication and education strategies. This TMRS department includes an editor, communications specialist and the travel team representatives. This team of individuals manages communications across all media, provides educational services to members, cities and retirees, ensures the System's message is consistent, researches news and issues, and promotes internal communications.

## **Finance**

The Finance Department (also referenced as the Accounting Department) is led by the Director of Finance, who is responsible for internal and external financial reporting, as well as managing the investment accounting function, which includes daily communication with and support to the TMRS Investment department. The Finance department prepares and presents budgets, forecasts revenues and expenditures, presents strategic plans, researches current pension and financial accounting issues, coordinates activities with internal departments and outside agencies and officials, and provides financial reports (prepared in accordance with generally accepted accounting principles (GAAP) as prescribed by the governmental accounting standards board (GASB)) to TMRS management and the Board. Finance personnel also participate in special projects, work with outside actuaries, and assist cities and outside parties with information.

## **Government Relations**

TMRS' Governmental Relations (GR) Director represents TMRS in the state and federal legislative process by serving as a liaison with the state legislature, Congress, and various local, state and federal agencies. The GR Director also serves as a liaison with city managers, Human Resources (HR) and finance officers and employee associations with the cities for all legislative issues.

## **Human Resources**

TMRS' HR Director is responsible for developing and implementing policies, procedures and programs relating to employment law, employee relations, performance evaluation, recruitment, retiree benefits, compensation, and related benefits. The HR Director must also coordinate training, ensure compliance with all local, state and federal regulations and promote a positive culture and atmosphere throughout the organization.

## **Information Resources**

TMRS has an extensive information resources (IR) department, led by a Director, and assisted by a Records Manager, an Information Systems Manager and a Network Operations Manager. This department supports all other TMRS departments and is tasked with the implementation of technology and records management initiatives. TMRS' IR department develops, coordinates and oversees the strategic long-term planning of the department and the organization regarding information technology matters, and provides customer support to internal users, members, member cities and

annuitants. This department also coordinates the System's records management function and the disaster recovery and business continuity operations.

### **Internal Audit**

TMRS' Internal Auditor reports directly to the Audit Committee of the Board and administratively to the TMRS Executive Director, implementing the internal audit function for the System, including planning and conducting internal fiscal, operations and other audits of TMRS.

### **Investments**

Under the direction of the Executive Director, the Chief Investment Officer (CIO) is responsible for the overall management and administration of the TMRS investment program. The TMRS investment program encompasses a well-diversified global portfolio, managed externally through the retention of outside money management firms and with the support of independent investment consultants. The CIO is supported with a team of asset class directors and analysts.

### **Legal / General Counsel**

The TMRS General Counsel (GC) serves as legal advisor to the System, including the Board of Trustees and all departments of the system and reports to the Board of Trustees and the Executive Director. The General Counsel is responsible for coordinating all legal services for the System, including the selection, supervision, retention and evaluation of outside law firms. The GC also has a legal assistant and three additional attorney's on staff to review, draft and negotiate contracts, draft legal opinions, provide legal advice, monitor legislation and legal issues, draft bills and administrative rules, draft or review communications, participate in strategic planning activities, and represent TMRS in legal or administrative proceedings.

### **Member Services**

The largest TMRS department is directed and managed by the Member Services Director and two Member Services managers, tasked with processing member and retiree benefits and administering city plan provisions. This team of analysts provides account management and benefits counseling to participating cities, members, retirees, beneficiaries and officials; creates and maintains member/retiree accounts; answers incoming calls; composes correspondence; and processes payments.

### **Project Management**

The TMRS Project Manager is tasked with successfully managing and coordinating all of the Texas Municipal Retirement System's strategic, large, complex, or critical projects through all phases of the project lifecycle. This is accomplished by ensuring projects adhere to a standard Project Management Institute (PMI) methodology and providing the senior management team visibility into initiatives and projects required to accomplish the organization strategic plan.

# Relevant Aspects of Control Environment, Risk Assessment Process and Monitoring

## Control Environment

TMRS' Board and senior management review and update annually the System's Strategic Plan. The Strategic Plan document encompasses both high-level objectives, as well as specific tasks and expected completion dates. TMRS' current Strategic Plan document includes mission and vision statements. In addition, TMRS has identified ACTIVE Principles for quality and professionalism throughout the organization (Accountability; Continuous improvement; Teamwork; Integrity; Versatility; and Employer of choice). Goals included in the Strategic Plan encompass actuarial soundness, prudent asset allocation strategies, customer service, collaborative employee culture and Board governance.

TMRS has a comprehensive Employee Policies and Benefits Manual, which includes the following major categories:

- Organization structure
- Employment procedures
- Employee responsibilities
- Compensation and benefits
- Health and safety
- Employee harassment
- Travel policies
- Telecommunications policy
- Computer usage policy
- Drug and alcohol policy
- Open door policy
- Progressive discipline policy
- Workplace violence prevention policy
- Acceptance of gifts and gratuities policy

The System also has Bylaws of the Board of Trustees, an Administrative Governance Policy, Ethics Policy and state laws that are applicable to the conduct of TMRS trustees (Texas Government Code provisions).

## **Risk Assessment Process**

The TMRS internal auditor manages the Enterprise Risk Management (ERM) function for the organization. Each TMRS department has created a risk assessment document to define the objectives, risks and risk management activities for the respective functions in that department. Assessments are reviewed and updated annually; assessment documents are provided to the Board through their portal. In addition, these documents follow the general COSO requirements format, indicating the control objectives, risks, risk management activities, and ratings for the risk and associated controls.

## **Monitoring**

Management has created a tool to regularly track the responsible parties associated with the various objectives, and to notate the adherence to the stated controls for those objectives. Management is responsible for updating the tracking tool as controls are changed, and addressing any controls that are found to not be functioning as intended.

TMRS has an internal audit function and the internal auditor reports directly to the Audit Committee of the Board of Trustees. Annually, the internal auditor, utilizing the Enterprise Risk Management assessments, identifies and prioritizes the higher-risk areas. An audit program is then established for the coming year based on the identified high-risk areas and presented to the Audit Committee for approval. The internal auditor and Audit Committee may also hire additional internal audit services through co-sourcing arrangements, if needed. Upon completion of an internal audit, the audit report is presented to the Audit Committee for review and discussion. Once reviewed by the Audit Committee, the full Board of Trustees is briefed on the results, and the audit report is presented to the Board for approval. Upon adoption of the audit report, an action plan is developed by management to address any findings or recommendations listed in the report. This plan is in turn monitored for progress, with regular periodic reports of progress made to the Audit Committee of the Board.

Management also monitors the results from external audits. The external financial auditor is required to present the audit results to the TMRS Board at their June meeting. If warranted, the external auditor is also required to present management letter comments to the Board. TMRS management conducts an exit interview/meeting with the external auditor, to obtain any verbal feedback that may have been noted during the audit, but perhaps did not rise to the level of a management letter comment. TMRS management reviews and assesses any verbal or written comments from the auditor, to identify any possible control risks or to determine the need for additional or different controls to be put in place.

## **Information and Communication**

**Information Technology Organization and Environment:** The Information Resources Department is responsible for providing information technology direction and support at TMRS. This department includes the Network Operations and Software Development Groups. The department reports to the Director of Information Resources.

**Network Operations:** The Network Operations Group is responsible for the computer operations at TMRS. This includes:

- Network Administration – management of TMRS' computer network including the security, design, installation, and monitoring of switches, routers, firewalls, and Internet access.
- Security – allocation and management of user privileges on TMRS' computer network, including access to servers, data, applications, and the Internet.
- PC Administration – installing, testing, securing, and maintaining the hardware and software of TMRS' desktop computers and laptops.
- Software Installation – installation and testing of all infrastructure and end-user software. This includes server and desktop software such as application server software, web server software, virtualization software, and software such as Microsoft Office.
- Data Center and Server Infrastructure – Installation, testing, and maintenance of server hardware and data center equipment.
- End User Support – responding to user requests by diagnosing and resolving software, hardware, and service issues.
- Phone System Support – maintenance of TMRS' phone system including user setup, call routing, and hardware support.
- Mobile Device Support – deployment and support of mobile phones and tablets for TMRS employees.
- Backup and Recovery – strategies and operations designed to protect TMRS' data and applications against any kind of data loss.
- Computer Operations – perform tasks to manage payment processing, check printing, payment authorizations, automated correspondences, and other weekly, monthly and yearly processes.

Individuals in this group include the Network Operations Manager, Network Administrators, and the Computer Support Specialist.

**Software Development:** The Software Development Group is responsible for developing and maintaining TMRS' pension administration system (NextGen), the MyTMRS employee portal, the TMRS City (employer) Portal and other custom built software employed by TMRS. These duties are broken down into the following tasks:

- Planning – Collaborating with TMRS' business units to propose new software applications, new features and changes to existing applications, as well as bug fixes in existing applications. This includes project planning, change control, and release management.
- Software Design – gathering requirements and defining the individual modules or components of a software application.

- Software Development – the programming or coding of a software application. This includes limited testing to ensure that the application meets the software design requirements.
- Database Administration – the installation, configuration, maintenance, monitoring, and security for the databases that support TMRS' software applications.
- Testing – evaluating a new or updated software application or module to ensure that it executes as expected. This includes unit testing, integration testing, functional testing, performance testing, usability testing, regression testing, and acceptance testing.
- Implementation – a structured methodology to roll out a new or updated software application to production, ensuring that the application is installed and configured correctly.

Personnel in this group include the Software Development Manager, Senior Software Architect, Senior Systems Analysts, Systems Analysts, Business Process Analyst, Quality Assurance Analyst and Database Administrator.

## Description of Computing Environment

TMRS' data center is located in its headquarters in Austin, Texas. It provides telecommunications, server, and desktop resources for all of TMRS' operations. The data center server environment employs Dell PowerEdge servers, an EMC SAN (Storage Area Network), and HP ProCurve switches to support its virtual servers and desktops. All of TMRS' servers, personal computers, and laptops run Microsoft Windows.

### Computing Systems

The operating environment of the Texas Municipal Retirement System includes an integrated network consisting of the primary applications listed below:

- Next Generation Member Benefits System (NextGen MBS or NextGen)
- FileNet (Imaging and Workflow)
- MyTMRS (Member Portal)
- TMRS City Portal (Employer Portal)
- Microsoft Great Plains (Fund Accounting)

NextGen MBS performs the processing of pension transactions and is the only system in-scope for this report. FileNet, MyTMRS, TMRS City Portal and Great Plains send and receive information from NextGen MBS, however these applications are not in-scope for this report.

## Description of Systems

NextGen MBS is used by TMRS to manage, track, and administer member benefits. NextGen MBS supports four main functions: creation and maintenance of city retirement plan options; creation and maintenance of member and annuitant data; creation and maintenance of payment processing (refund, annuity, partial lump sum distributions (PLSDs), and supplemental death benefits (SDBs)); and the application of interest.

Inbound feeds into NextGen MBS include member contributions data (via text files manually imported into the system via removable media or file posted to secure FTP site). Principal outbound feeds include user and operator generated reports, database synchronization with Great Plains (including payments issued, city payroll contributions, interest applied, retirement transfers, and all other electronic journal vouchers), check data manually uploaded to ADP's check printing service, images (such as estimates, eligibility letters, and vesting letters) into FileNet, and positive pay check information manually loaded into JPMorgan-Chase's Positive Pay System.

NextGen MBS is a custom-built application written in Java, and running under Microsoft Windows with Oracle 11g serving as the application's database.

FileNet - TMRS implemented the FileNet Content Management System to support the Member Benefits department. It is the repository in which images of TMRS' city information, member forms, and correspondence are stored. There are multiple routes by which data and images are routed into FileNet, including:

- High volume scanning. This process involves a variety of TMRS forms that are part of established workflow processes. These items are received in each morning's mail and are scanned and indexed upon receipt. They are then forwarded to Member Services for processing. Key workflows currently include: new member set-up, beneficiary changes, address changes, withholding changes, restricted service credit processing, fax documents received, refund applications, supplemental death benefit (SDB) applications, and distributed benefit rollover forms.
- Backlog scanning. This process involves a variety of records that are not associated with established workflows. Such records are forwarded directly to Member Services for handling and are then scanned.

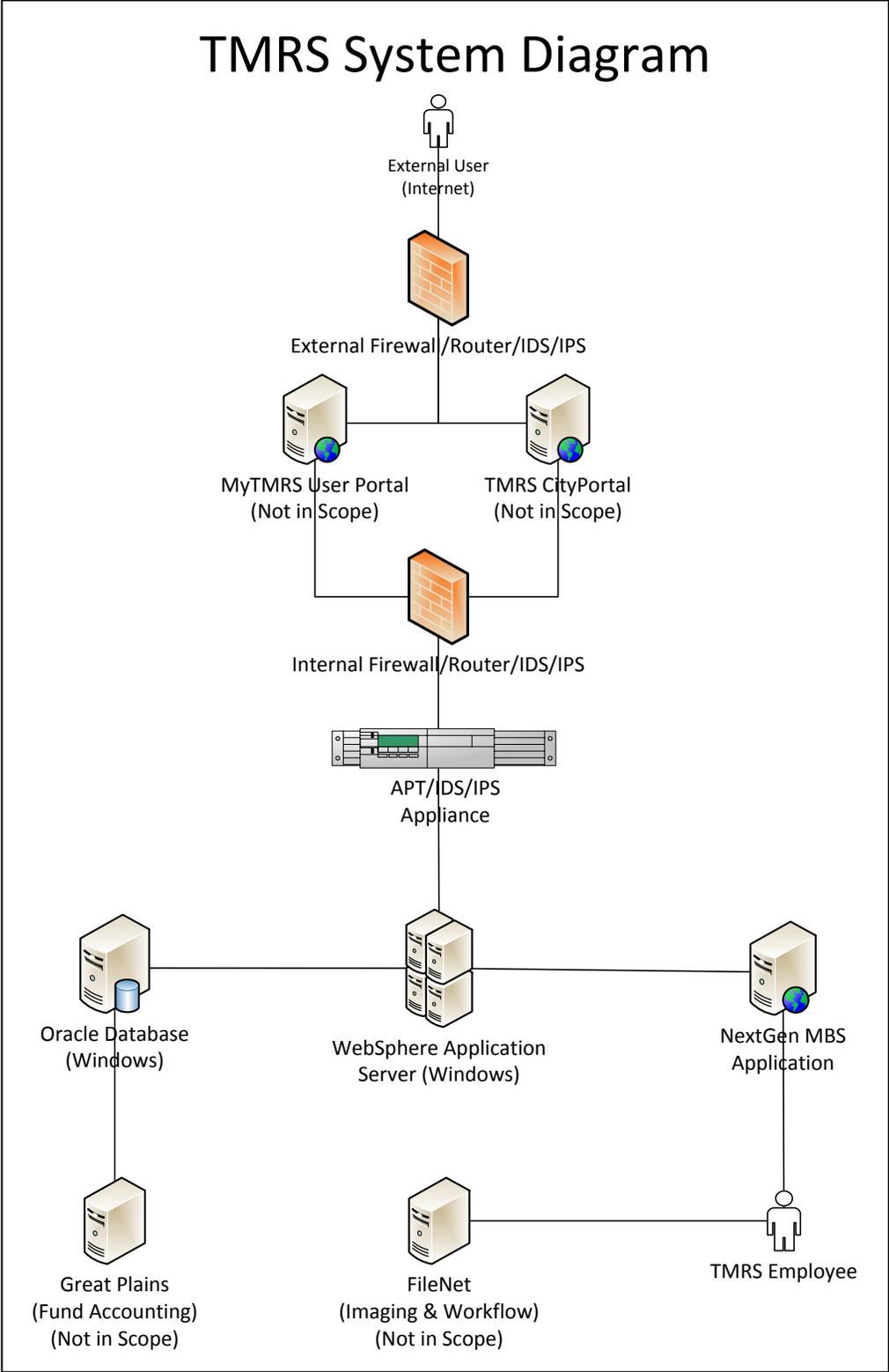
Application feeds - Interfaces have been created from NextGen MBS, City Portal and MyTMRS to support the direct storage of data and images into FileNet without user intervention. For example, when a user creates a retirement estimate from one of the pension applications, a PDF rendering of the estimate is automatically archived into the FileNet repository.

Microsoft Word feeds - When viewing documents that are associated with an established workflow, NextGen users may create a new Word document to be imported into the FileNet repository via a macro which places it in a specified directory for capture by FileNet.

MyTMRS is a secure, web-based portal for TMRS' members and retirees to check their balance, address, payment, and beneficiary information. Members also have the ability to run retirement benefits estimates. It utilizes an Oracle database and has been built using the same Java programming language.

TMRS City Portal allows authorized city personnel to generate reports, run estimates for members, and submit payroll data. Authorized users can also view member account balances and service credit totals. It also utilizes an Oracle database and has been built using the same Java programming language.

# TMRS System Diagram



Microsoft Great Plains (Dynamics). Microsoft Dynamics is the primary accounting system used to manage accounts payables and receivables, track member contributions and the cities' matching funds, and print vendor A/P checks. The modules currently in use are all version 2010 and include:

- General Ledger – tracks all types of GL entries and reporting periods as well as offers budgeting and financial forecasting capabilities.
- Human Resources – has the ability to track all personal employee information, benefits information, payroll data, and HR forms.
- Payables Management – manages purchases made on account, tracks vendors, manages vouchers, processes payments, and analyzes vendor performance.
- Bank Reconciliation – integrates all cash and check transactions, tracking bank account balances and automating the monthly process of reconciling these accounts.
- Fixed Asset Management – used to record, track, depreciate, and analyze TMRS' fixed assets.
- Payroll - manages all payroll – related activities.
- Payroll Direct Deposit – allows TMRS to automatically add payroll funds to employees' bank accounts through an electronic Automated Clearing House (ACH) file.
- Business Portal – allows TMRS staff to submit semi-monthly payroll timesheets, and update personal HR and Payroll related data.

Great Plains is a third party, client-server application that runs under Windows Server 2008R2. Microsoft SQL Server is the backend database. Great Plains imports city deposit and payroll (contributions) data from NextGen MBS. NextGen MBS tracks the deposits on a member-by-member basis and rolls them into one transaction for the city and employee deposit, which is then imported into Great Plains.

## Control Objectives and Related Controls

TMRS' control objectives and related controls are included in section IV of this report, "The Texas Municipal Retirement System's Control Objectives, Related Controls and the Independent Service Auditor's Description of Tests of Controls and Results," to eliminate the redundancy that would result from listing them in this section and repeating them in section IV. Although the control objectives and related controls are included in section IV, they are, nevertheless, an integral part of TMRS' description of the system.

## Scope / Examination Period

The examination period for the report spans a fifteen-and-a-half-month period from January 1, 2014 to April 15, 2015. As this was the first SOC 1 report for TMRS, a fifteen-and-one-half-month period was selected in order to include controls related to the fiduciary net position of TMRS as of December 31, 2014. Interest allocations are based on the Board of Trustee's actions taken no later than March following the respective December and therefore are included in this report. The scope of the report includes the general computer controls related to the environment of systems and infrastructure located at TMRS in Austin, Texas supporting the NextGen application. The control objectives and testing matrices are included in section IV.

## **Census Reports**

**Control Objective 1:** Controls provide reasonable assurance that reporting of participant census to the TMRS outside actuary is complete and accurate.

### **Census Data**

Personal data is collected from the member at the time of enrollment and during various points in the individual's membership. This data is used not only to set up an account and determine to whom benefits can be paid, but is also the personal data required by the actuary to perform the annual actuarial valuation. The actuary performs a life-by-life validation of each member as part of the valuation process.

### **New Member Enrollment**

New members are enrolled in TMRS either at the time a city begins participation in TMRS or on the employee's date of hire if the city already participates in TMRS. Enrollment is accomplished by the employee or employer submitting a "New Member Form" (TMRS-16). This form provides all the data necessary to set up a member account in TMRS, including name, social security number, mailing address, phone number, city number, date of birth, gross monthly salary, date of participation, identification as uniformed or non-uniformed police or fire, and designation if individual is a member of another statewide retirement system in Texas. This form also provides beneficiary information including name, Social Security number, gender, relationship and date of birth.

If the city is just beginning participation in TMRS, additional information is solicited so that prior service credit can be granted. Two separate packages of forms are transmitted to the newly participating municipality. The forms used to gather this information provide identifying information, as well as information regarding dates of employment prior to participation, salary information for this period of employment, and the number of months of prior service credit sought. The first package is for enrollment of the employees and includes a certification by the city official that all persons who are employees as defined by the TMRS Act are being enrolled in the System. The second package of forms is for crediting prior service credit and includes a certification by the city official that the number of months worked prior to participation and the average salary to the study period is true and correct. This data is crucial from an individual's perspective because it is credited service that counts toward both vesting and retirement eligibility. It is also crucial from the employing city's perspective because it is the data required to calculate the prior service liability associated with this credit and thus necessary so that the city can properly fund this liability.

Forms received by TMRS are scanned into FileNet and distributed to a work queue for processing. Once the record is picked up from the queue, the first test is to review the form to ensure it contains the member name, Social Security number and identifies the employing city. If the form does not, a letter is generated requesting the missing data be provided, and the letter is mailed either to the member or city (depending of what information is missing).

The next step is to determine if the individual is currently a member of the System. If the individual is not a member, then a member account is created by the analyst using the information provided on the form. The process to create the account requires double entry of the Social Security number to ensure that the analyst entered this key control number. A monthly audit is run to resolve duplicate accounts based on the same Social Security number. Another monthly audit compares salary and subsequent contributions to the maximum annual limits set under Internal Revenue Code Section 401(a)(17).

If a member account already exists based on the Social Security number, then the account status is confirmed or investigated and updated if necessary.

Prior to TMRS' fiscal year end on 12/31, a series of audits are conducted to ensure that accurate and complete data is maintained in NextGen MBS. This data is used by the actuary in preparation of the annual actuarial valuation, and used by the system in preparing annual statements for both members and retirees. One audit reviews the database for missing, incomplete or invalid addresses. Cities are contacted to assist TMRS in gathering this information to help alleviate returned mail on annual statements due to incorrect addresses that TMRS may have had on file. The Missing Member Data Request is transmitted to the cities to help TMRS gather information on employees for whom date of birth or gender is missing. Similarly, the Missing Salary Request is transmitted to cities to help TMRS gather wage information for employees so that member Annual Statements are accurate. A member services analyst reviews and updates the information that is received back from the city. A year-end calendar is utilized to ensure that these various audits are performed each year for consistency. This calendaring process documents the date the audit was initiated, date completed and is initialed by the individual completing the audit.

## **Plan Changes**

Each entity or "participating city" that participates in TMRS (by statute either an incorporated municipality, department of an incorporated municipality, or one of the few entities granted participation status under the TMRS Act) selects the provisions of their respective plans from the options provided under the TMRS Act. Certain options can be adopted or changed periodically under the statute. Changes to the plan provisions are adopted by official action of the governing body of the participating city. TMRS provides each entity contemplating a change in the plan provisions with a model ordinance or resolution (depending upon what type of action is required by the governing body) for use in adopting the provision. A copy of the finally adopted model ordinance or resolution is provided to TMRS as evidence of the participating city's desire to change the plan provisions. Once received, the plan change is updated in TMRS' member benefits system and various other spreadsheets to be used in the actuarial valuation process. Access rights to NextGen MBS to make these changes are limited to three positions so as to maintain control over the data entered into the system. The Deputy Executive Director's assistant begins the process by preparing the plan change memo that is attached with the model ordinance, a copy of the letter transmitting the model ordinance to the city, and the actuarial study determining the impact of the adopted change if applicable, and posts the change in two spreadsheets. This package of information is delivered to the Deputy Executive Director for review and posting. The Deputy Executive Director then posts the benefit change along with the effective date of the change to NextGen MBS and performs a five point review of the spreadsheets and postings

concluding with an internal email to the Member Services Department and the Communications Department, as well as the Executive Director, Director of Actuarial Services and Director of Government Relations in TMRS advising them of the change in benefits. This process is concluded by mailing a confirmation letter to the adopting city.

### **Data File for Consulting Actuary**

Each year the System's outside consulting actuary prepares an actuarial valuation for each participating city to determine the city's liabilities under the plan, and calculates the contribution rate required to fund these liabilities. The actuarial valuation is based on census data supplied by the System. The census data files (active member file and retiree file) used in the annual actuarial valuation is generated by the Information Resources Department. Both of these data files go through validation procedures prior to being delivered to the actuary.

The active member data file validation begins by confirming that each account that should be in the file actually is in the file. To do this, Information Resources verifies that every active membership that was in the previous valuation file is represented in the current year's valuation file. This process excludes any membership files that were "closed" (refunded deaths, refunds, retirements, death retirements) before the end of the last year. Verification includes not only a count of the total accounts, but also that at least one transaction (contribution, interest credit, etc.) has occurred prior to January 1 of the year after the valuation year. TMRS verifies that all accounts for individuals that retired in the valuation year or later are in the data file. TMRS also verifies that all accounts for individuals that applied for a refund during the valuation year or later are included in the data file. TMRS finally verifies that all accounts that have been escheated during the past two valuation years are included in the data file.

TMRS next confirms that the demographic data for each account is correct. The census data gathering and audits discussed earlier supply this demographic data. This verification confirms a match between the NextGen MBS tables and the active members data file for the following data types: gender, date of birth, termination date, death date, employing city, fire or police type, retirement from another membership, contributing in another city, and earliest participation date. For each record in the active members data file, TMRS confirms that all contribution and service credit data matches NextGen MBS data. These values are summarized at both the account level and grand totals for comparison. The status of the account (contributing, vested death, refund death, refund, non-contributing, death retirement, service or disability retirement) in the file is compared to the member benefit system. Finally, TMRS validates beneficiary information for vested death accounts. Beneficiary information (gender and date of birth) is only provided to the actuary when a single living beneficiary exists for a deceased member. If there are multiple beneficiaries, or no living beneficiary, then these values will be null.

The retiree actuarial data file, created and reviewed by the Information Resources Department, goes through a validation process similar to the active member data file. The first series of comparisons ensures that the number of records in the file matches the number of memberships that received a payment during the study year, and that any discrepancies in the comparisons are resolved. Secondly, Information Resources ensures that any membership which received a payment in the reporting year is included in the file. Third, Information Resources ensures that anyone on the previous year's

report with a continuing status is included in the file. Finally, Information Resources runs a comparison of annuity amounts reported to actual annuity amounts in the pension benefit system, and the anticipated mismatches are reconciled by Member Services analysts.

Once these tests and verifications have been completed, the active member file and retiree files are transmitted to the System's retained consulting actuary, currently Gabriel Roeder Smith and Company (GRS). Once received, GRS first confirms that the file received matches the file transmitted by TMRS by comparing control totals. GRS next performs an extensive series of tests and audits on the data. For active members, GRS checks: for consistency in basic demographic information with the prior year; performs a comparison of the changes in the service fields to expectations; reviews salary changes from the prior year on an individual basis and changes to average salaries for each municipality; reviews the interest credit and account balance roll forwards; and, checks the separate components involved in the Updated Service credit computation. With regard to retirees, GRS checks for consistency in basic demographic information from the prior year for the retirees and beneficiaries (if applicable) and reviews records with a change in status or payment form compared to the prior year to verify that benefits have changed as expected. In addition, GRS reviews changes in benefit amounts due to cost of living adjustment to verify that the increases are consistent with municipalities' plan provisions and actual changes in the CPI based on individual's date of retirement. Upon completion of this testing, a spreadsheet is returned to TMRS listing exceptions found by GRS. Members of the TMRS Information Resources and Member Services Departments review each individual exception. Upon review, a file is created listing the exception and the TMRS explanation regarding the exception. This file is saved in a folder on the TMRS network for that year's valuation information and is uploaded back to GRS. If the review of the exceptions found any issues where the data needs to be modified, a data file is regenerated and retransmitted to GRS. Using this process, the census data in the TMRS database always matches the data provided to GRS.

### **Internal Actuarial Review**

Prior to presentation of the valuation to the Board of Trustees for action, the outside consulting actuary delivers to the TMRS Director of Actuarial Services (DAS) various sections of the Valuation Report for review. The DAS first confirms that all plan changes adopted by municipalities have been included in the valuation. Preliminary valuation results are provided to the DAS. The DAS and the Deputy Executive Director review these results, and changes outside of a reasonable range (+/- 0.75%) are randomly reviewed in further detail. Upon completing the review of the preliminary results, the outside consulting actuary delivers the complete Valuation Report to the DAS, which is reviewed in total for accuracy. And finally, upon the Board of Trustees' adoption of the Valuation Report, the outside consulting actuary delivers the Contribution Rates file from the adopted valuation. The DAS performs a city-by-city comparison of this file to the contribution rates included in the Valuation Report, and then delivers the file to the Information Resources Department for uploading to the System's database. Once the contribution rates are uploaded to the database, they are again compared on a city-by-city basis to ensure the upload was complete and accurate.

## Contributions

**Control Objective 2:** Controls provide reasonable assurance that contributions are completely and accurately posted to the employee and employer accounts in the proper period.

### Collection of Contributions

City contribution rates are obtained from the actuarial valuation that is conducted on an annual basis and, after review by the Director of Actuarial Services, Deputy Executive Director, and adoption by the Board of Trustees, are entered into NextGen by the Deputy Executive Director. Modifications to the rates are restricted to the Deputy Executive Director, his designated backup, and NextGen system administrators. The contribution rates are provided to each city to ensure they accurately calculate and collect contributions from the city employees who are TMRS members.

Each month, cities are required to submit a “Summary of Monthly Payroll Report” (TMRS-3), the “Employee Contributions Report” (TMRS-2), and the corresponding payment.

- The TMRS-3 summarizes city payroll information for the specific reporting period, such as number of participants, total gross payroll earnings, total employee contributions, total city contributions and any other miscellaneous adjustments that may be required. All employee and employer contributions and any adjustments are totaled and this dollar amount is remitted by the city to TMRS. The employee contributions, municipal contributions and the supplemental death contributions, if applicable, are calculated based on the gross earnings reported and the specific contribution rates in effect for that city during the reporting period. Miscellaneous adjustments may be included in the report and typically reflect corrective adjustments (overages/shortages) to the current or previous payroll report(s) or they reflect interest due on late payroll submission. The TMRS-3 includes a certification by an authorized City official as to the completeness and correctness of the report.
- The TMRS-2 or a corresponding payroll detail form generated by the city must accompany the TMRS-3 to support the totals indicated on the TMRS-3. This report includes each contributing member’s name, Social Security number, monthly gross earnings and calculated contribution amount based on the city plan provisions in place during the reporting period.

Cities submit payroll reports electronically as an FTP file delivered via a secured connection through the TMRS employer portal or by mail, and, the required contributions are directly deposited into TMRS’ trust account via ACH payment or by paper check.

If the payroll reports and the corresponding payment are mailed, the Records Department routes the reports and payments directly to the Accounting Department. Any payments received via the mail (i.e., paper check) are deposited by the Accounting Department into TMRS’ trust fund. If the report and/or the corresponding payment are submitted electronically, the Accounting Department creates a TMRS-3 based on the payment received to record the amount received from the city.

The Accounting Department enters the monetary information provided on the TMRS-3 into the NextGen database and initials the form to indicate that the total amount submitted is accurately reflected on the TMRS-3. If the amount indicated on the TMRS-3 is different from the amount that was submitted, the Accounting Department crosses out the incorrect amount listed and replaces it with the actual contribution received. The actual contribution received is entered in the NextGen database, which creates an electronic summary, allocating the cash receipt to the appropriate city.

After the payroll reports and corresponding payments are entered into NextGen, the Accounting Department forwards the payroll reports to Member Services who then processes the payroll information as listed below and disperses all deposits to the appropriate general ledger accounts that are programmed in NextGen. This information is then integrated into Great Plains (TMRS' general ledger database). In this manner, access to allocate cash and access to enter the cash receipts totals within NextGen is segregated between Member Services and Accounting.

### **Managing Completeness of Contributions**

Upon receiving the payroll reports from the Accounting Department, Member Services verifies that each report is certified and signed by an authorized city official. The analyst also reviews the payroll to ensure that the proper payroll date, actuarial rates, and adjustment descriptions are appropriate.

All employee contributions are updated electronically or manually according to the Social Security number corresponding to the reported deposit. The cities are responsible for ensuring that deposits correctly correspond with the appropriate Social Security number. NextGen automatically updates any deposits assigned to a Social Security number as long as a membership with that same Social Security number has been setup in NextGen for that City. If no existing Social Security number resides in NextGen, the deposit is moved to a "suspense" fund. The Membership Team then runs an "Unmatched Deposit Audit" to identify deposits for which a New Member Form has not been received and deposits reported with incorrect Social Security numbers. When processing this audit, analysts will research the name and Social Security number associated with the deposit to determine if the deposit was reported correctly or if a New Member Form is required. Annual statements are sent to each member confirming the previous year's deposit amounts. Members may also log onto "MyTMRS" to confirm their current account balances.

NextGen generates a calculated employee and employer deposit total based upon the gross earnings entered into the database by the Member Services Analyst. Once the employee contributions are entered or updated by Member Services, the payroll report must balance in order to post the contributions to each member and city account. If there is a substantial difference between the member contributions calculated by the city vs. the member contributions calculated by NextGen, a pre-post audit report is generated by the analyst to identify employee contributions that do not balance based on the gross earnings reported by the city. The analyst then contacts the city in order to determine the correct gross and employee contribution. The city is then asked to provide an email confirmation with the corrected payroll information. Once the confirmation is received, the analyst either adjusts the gross or the employee deposits prior to posting.

Any excess or deficiency in the amount remitted by the city for employee contributions is deposited to or taken from the related city's benefit accumulation fund balance and the city is asked to make an adjustment on subsequent payroll reports.

TMRS relies on the city to certify the correct gross salary for each employee.

Member Services also conducts a "Maximum Compensation Limit" audit each month, identifying any members whose compensation may potentially exceed the maximum yearly amount allowed by the Internal Revenue Service (IRS). Member Services notifies the city of the annual limit and requests that they make any necessary adjustments to future payroll reports to ensure that the reported contributions do not exceed the annual limit. At the end of the year, a report is generated to identify members with reported contributions that exceeded the annual limit. Member Services debits the overage from the individual employee account and credits it to the city's benefit accumulation fund. Cities are then instructed to refund the amount directly to the employee.

### **Allocating Funds Timely to Proper Accounts**

Section 855.402(e)(3) of the TMRS Act mandates that all participating municipalities submit employee contributions before the 16th day of the month following the month for which the contributions are due. If a city fails to remit the required contributions before the 16th day of the month, the city must pay late interest based on the past-due amounts at an annual rate that is the total of the system's investment return assumption for the preceding calendar year, plus two percent. At the end of each month, the Membership Team runs a report from NextGen which identifies outstanding payroll reports. Membership analysts have a series of actions available to them in their pursuit of payroll information from TMRS cities.

Cities must submit payrolls in chronological order. NextGen does not allow payrolls to be posted out of sequence. For example, February cannot be posted before January. At the end of each monthly payroll cycle, all posted payrolls are exported which facilitates the following: the accounting date is rolled forward and the Benefit Accumulation Fund, Supplemental Death Fund and late interest fees are totaled electronically for each city for the Accounting Department. The Accounting Department is responsible for reconciling each account.

Member Services sets a "cut-off" date for processing payrolls each month. All completed payrolls received through that date are processed and updated to member accounts. If a payroll is incomplete or if there are issues to be resolved, the payroll is put on "hold," pending resolution of the issue or problem identified. Retirement calculations and subsequent retirement set ups, and refund payments based on the need to include a particular payroll, are not generated until the payroll for that effective date has been updated.

The TMRS Act allows for a city to correct an error to a member's account. Corrections can only be made for errors occurring within four years from the date the written application for corrections is received by TMRS. Corrections affecting less than 6 months and/or corrections involving less than \$1,000 require approval only by a Member Services Manager and the Director of Member Services. Corrections exceeding these thresholds are to be reviewed by the Deputy Executive Director. Corrections involving litigation or administrative proceedings are to be reviewed by the Deputy Executive Director and General Counsel.

The Membership Team provides the TMRS Finance Department with payroll information for reconciliation. Analysts balance payrolls as they are entered into the system. Journal entries are automatically produced for the Finance Department, which in turn reconciles payroll transactions to the funds received. Finance works directly with the Membership analysts to resolve any payroll discrepancies identified. This provides reasonable assurance that data pulled into the benefit calculation is complete and accurate.

## Income Allocation

**Control Objective 3:** Controls provide reasonable assurance that income allocations are completely and accurately posted to the employer accounts based on amounts approved by the Board of Trustees.

Statute (TMRS Act, Section 855.317, "Annual allocation of net investment income or loss from Interest Fund") requires that the System allocate or distribute income on an annual basis, effective as of December 31 of each year.

The TMRS Finance department calculates the estimated net investment income for the fiscal year (January to December) in accordance with GAAP. With input from the TMRS Investment and Actuarial departments, a recommendation is then made and presented to the TMRS Board of Trustees at their March meeting, to allocate estimated net investment income to the different reserve accounts, including Supplemental Death, Supplemental Disability and the Benefit Accumulation Fund (BAF). For the Supplemental Death and Disability Funds, the interest credit is determined in accordance with statute (5% interest on the mean amount in that fund for the fiscal year). Then, once any other reserve requirements are met as established by the Board of Trustees, excess net investment income is allocated to the Benefit Accumulation Fund (BAF), with the Board's approval.

To determine the interest allocation, the Controller downloads beginning BAF balances, by city, from Microsoft Great Plains into an Excel file, and reconciles to the Change in Benefit Accumulation Fund Schedule that was included in the prior year's CAFR. Once the Board approves the BAF interest credit (rate), the Controller then allocates the estimated net investment income available for allocation to the individual cities, pro-rata on beginning BAF balances by city.

From the Excel file, an integration/journal entry is created, crediting each city's BAF account as of the year-end, and debiting the Interest Reserve Account (in total). The Excel file and journal entry are forwarded to the Director of Finance for review and approval. The Director of Finance utilizes the random number generator in Excel to select 5% of the cities to review for proper interest allocation (recalculation) and a quality control review and reasonableness check is conducted. Once approved, the journal entry is posted to the General Ledger.

## **Fund Balances**

**Control Objective 4:** Controls provide reasonable assurance that fund balances are reconciled and reported accurately and completely.

The TMRS Finance Department, in conjunction with creating the financial statements for the Comprehensive Annual Financial Report, allocates all remaining funds (other than BAF) to the employer/city accounts.

According to the Governmental Accounting Standards Board (GASB) Statements No. 67 and 68, TMRS as a public employee retirement system (PERS) is required to allocate/distribute all funds to the respective participating employers for financial reporting purposes, to determine the respective employer “plan fiduciary net position”.

TMRS has determined that its other funds (endowment, supplemental disability and expense funds) will be allocated to the employer accounts pro-rata to cities based on their beginning Fiduciary Net Position (FNP) balance.

This allocation of other reserves/funds is included in the Plan Fiduciary Net Position schedule (contained in the TMRS CAFR and noted below), depicting the total fiduciary net position, by city. The Controller creates this schedule and forwards to the Director of Finance for review and approval. The Director of Finance approves and forwards the schedule to the external actuaries for use in the annual reporting actuarial valuation.

### **Development of Plan Fiduciary Net Position (PFNP) by City**

Created annually, the PNFP schedule depicts each city’s Fiduciary Net Position at year-end for financial reporting purposes, as well as for the external actuary’s net pension liability (NPL) determination for GASB reporting purposes. A city’s plan fiduciary net position is comprised of the city’s BAF at year-end, plus the allocation of other reserves.

Once the fiscal year accounting books and records are closed, a schedule of annual BAF activity (contributions, benefit payments, interest, etc.) is created utilizing FRx, a reporting tool from Great Plains. Each activity type is represented in an individual column, with each city listed in a separate row. Once this report is run, the Controller reconciles each column’s total to trial balance reports run directly from Great Plains. In addition, a sample of cities’ BAF activity is reconciled to Great Plains. The TMRS Finance department is able to utilize the activity from Great Plains to create this report, as monthly reconciliations between Great Plains and NextGen activity are completed each month by the Accounting Operations Supervisor.

The BAF schedule (in Excel) is then adjusted to include the allocation of other reserves to create the Plan Fiduciary Net Position, by city. The Controller creates the PFNP schedule and forwards to the Director of Finance for review and approval. In addition to the interest credit allocation testing that was previously completed (see control objective 3 – Income Allocation), the Director of Finance does a quality review and reasonableness review of the Excel document. For example, the quality review includes reviewing any columns that may have no activity for a specific city. If a city, for example, had no activity in the service retirements column, the Director verifies in NextGen that the city had no retirees for the fiscal year. The allocation of the other funds is then reviewed, to ensure that the

allocation to each city is appropriate, based on a pro-rata share equal to their share of the beginning PFP. Once approved, the Director of Finance forwards the schedule to the external actuaries for their use in developing each city's Net Pension Liability.

## Distributions

**Control Objective 5:** Controls provide reasonable assurance that distributions (i.e., disability, partial lump-sum, refunds, and service retirements) are authorized and processed accurately, completely, and in a timely manner in accordance with employer plan provisions.

### Set-up of Retirement Account

Members apply for service retirement by completing a retirement application which consists of the following forms:

- Application for Service Retirement (TMRS-15)
- Selection of Retirement Plan (TMRS-24)
- Selection of Partial Lump Sum Distribution (TMRS-PLSD) if desired
- Electronic Direct Deposit Authorization (TMRS-80E)
- Applicable proofs of birth

All required documentation must be submitted prior to issuing the first annuity payment. The retirement date must be the last day of a calendar month and may not precede the date the member terminates employment with all participating cities. The member's final city employer certifies the member's employment termination date on the retirement application.

A Retirement Team analyst manually logs the application into NextGen, verifies the information on the retirement forms to the employee's electronic TMRS file and verifies that retirement eligibility requirements have been satisfied. The Retirement Team analyst also verifies other pertinent information, such as member's birth date, which is verified for accuracy through supporting documentation such as a Registered Certificate of Birth, Texas Driver License, Military Discharge Document (DD214) and/or a Marriage License.

Once all pertinent information is received a confirmation letter is generated to the member confirming all retirement selections and the city receives a separate letter confirming the retirement date for their employee. A second analyst reviews all of the retirement documents, eligibility requirements, and the confirmation letter prior to forwarding the letter to the Deputy Executive Director for his review and signature.

After the application has been reviewed and all information has been verified, the analyst enters the member's retirement date and related retirement information such as retirement option, designated beneficiary, partial lump sum distribution election, and date of final deposit into NextGen MBS. The analyst updates the account status to complete and verified. A pending retiree audit identifies which pending retirements are ready to have a final annuity calculation report generated. The Annuity Calculation report is then generated by the analyst from NextGen MBS based on data entered into the system. One analyst enters the information and a second quality control check is completed through sight verification and positively checking a box in the system to move the application to payment status. The system will not allow a payment to issue if the box is not checked after the quality control check is completed.

The Support Services team processes retirement applications with a court order on file that mandate the division of their retirement benefits. A Support Services Team analyst calculates a “division factor” in accordance with the court order on file and enters it into NextGen MBS. The division factor and the annuity split are reviewed by a second Support Services analyst and then recalculated to verify the initial division of benefits.

The Annuity Calculation report is checked by an analyst for accuracy and reasonableness based on the employee’s most recently prepared estimate. If there is a significant difference that cannot be explained, further research is completed and the issue is escalated to Member Services management.

NextGen systematically finalizes the retirement set-up and generates the annuity payment at the end of the month. Prior to finalizing the retirement set-up, analysts generate reports to identify accounts that were not set-up for retirement, although application materials were received and logged into NextGen.

All benefit payment calculations producing a monthly annuity that is equal to or greater than \$5,000 requires the approval of the Director of Member Services and the Deputy Executive Director. Annuity calculations are forwarded to Member Services management as the retirement calculation reports for each individual are generated, just prior to the issuance of the first annuity.

In addition to the payment calculations reviewed above, Member Services management generate two separate reports every month to review new retirement annuities that were set-up during the month.

- The first report includes a random selection of retirement annuities set-up during the month. Management conducts a general calculation review, a review of required documentation, and a review of overall work quality for each annuitant listed on the report. This enables management to notice oddities or catch processing mistakes or mishaps.
- The second report includes annuitants with annuities of \$5,000 or greater, annuity amounts exceeding 90% of the Internal Revenue Code Section 415 limit, annuitants who are 70 ½ years of age or older, annuitants that had an Internal Revenue Code Section 401(a)(9) limitations calculation, and annuitants that had annual contributions in excess of the annual maximum compensation limit as defined by the IRS. Management reviews the report to ensure that every annuity payment of \$5,000 or greater was forwarded to the Director of Member Services and Deputy Executive Director and to ensure compliance with the Internal Revenue Code provisions listed.

Cities often report an employee’s final deposit after the effective retirement date due to their payroll reporting requirements. A report is generated by the Retirement Team to identify deposits reported for retirees. If a deposit is greater than \$500 and is received the month after a retirement benefit has been finalized, the Retirement Team recalculates the benefit to include the final deposit and the City’s matching on that deposit and “back pay” the retiree for any differences. If the deposit is less than \$500, only a refund representing that deposit is paid to the retiree. If the report identifies a retiree with a Support Services issue, the report is forwarded to that team for review and processing.

## **Set-up of Disability Retirement Account**

Members apply for occupational disability retirement by completing a retirement application which consists of the following forms:

- Application for Occupational Disability Retirement (TMRS-15/O)
- Selection of Retirement Plan (TMRS-24)
- Statements by the employing city, attending physician and the member concerning the disability (TMRS-40/OA, TMRS-40/OB, TMRS-40/OC)
- Selection of Partial Lump Sum Distribution (TMRS-PLSD) if desired and only if eligible for service retirement
- Electronic Direct Deposit Authorization (TMRS-80E)
- Applicable proofs of birth

All required documentation must be submitted prior to issuing the first annuity payment. The date must be the last day of a calendar month and may not precede the date the member terminates employment with all participating cities. The member's final city employer certifies the member's employment termination date on the retirement application.

A Retirement Team analyst verifies the information on the retirement forms to the employee file and prepares the application for submission to an external Medical Board consisting of three independent physicians hired by the TMRS Board. All disability applications must be approved by the Medical Board.

The Medical Board evaluates the medical and other pertinent information concerning the member's application and approves or disapproves the application for benefits. The Medical Board may ask for additional information prior to making a determination. The Medical Board completes form TMRS-43 to advise TMRS of their determination and the application is returned to the Retirement Team for processing.

Upon receipt of the Medical Board's determination, the Retirement Team verifies the Medical Board's approval by reviewing the TMRS-43 and continues the set-up process, which is identical to the service retirement set-up process noted previously. Once the disability annuity is set-up, it is managed similar to the ongoing retirement accounts noted below.

### **Ongoing Management of Retirement Accounts (Retiree information: death matches; COLA adjustments; USC/PS credits)**

After a retirement annuity has been set-up, annuities are payable for a period beginning on the last day of the first month following the month in which retirement occurs and ending, except as otherwise provided by the TMRS Act, on the last day of the month in which death occurs.

If an address change is received for an account in payment status, sight verification of the newly input address is performed. And upon receipt of a direct deposit change form, both the routing and account numbers are entered twice to ensure accuracy, then sight verification is performed by a second analyst.

At the end of the month, paper checks and/or annuity payments paid by direct deposit are automatically processed by the IS department and electronically transferred immediately or mailed from our check printing service, Automatic Data Processing, Inc. (ADP), in Atlanta Georgia. Member Services notifies the IS department when all monthly processing is complete as follows:

- The Retirement Team runs a series of audits to review any unusual entries and resolves any issues identified prior to the check run.
- NextGen automatically calculates and records benefit payments based on member and beneficiary data entered.
- A file containing benefit payment information is generated by NextGen for use by the Finance Department.

Accounts of members whose annuity payments have expired (i.e., term-certain); or who are deceased; or who are receiving income while on disability; must be removed from the active payroll or adjusted on a timely basis. Member Services performs a couple of procedures to ensure member accounts are kept up to date:

- File matches are performed approximately every 3 weeks with the Texas Department of State Health Services (TDSHS), and monthly with the Berwyn Group (an external vendor contracted by TMRS to provide death information), to identify deceased annuitants and remove their accounts from the active payroll. See death process below.
- The Retirement Team generates a report identifying annuitants whose annuity payments are set to expire. Annuitants receive written notification providing the date of the last payment.
- NextGen automatically cancels the payment provided the annuitant data was entered correctly upon retirement inception or when a death is processed.

If no further monthly payments are due, a calculation is performed to ensure that the member's personal deposits and interest have been paid. If any funds are still due, a "Cash Refund Annuity" is made to the beneficiary on record. In order to disburse the death benefits, the beneficiary is required to provide a photocopy of the decedent's death certificate along with other applicable TMRS forms required to pay any benefits due as a result of the death. The Retirement Team verifies the information provided and examines the death certificate for unusual causes of death. Any unusual death scenarios such as no beneficiary on file, homicide and/or pending investigation are forwarded to the Support Services Team for review. A second analyst verifies all death information entered into NextGen and any correspondence generated related to the death benefits prior to issuing any benefit payments due as a result of the death.

The creation of a new payee is restricted to only the Retirement and Support Services Teams and Member Services management. In addition to creating new payees as a result of a retirement/refund application or death, new payees are also created pursuant to various court orders that may be received by TMRS such as, federal court orders, IRS levies, domestic relations orders, and child support orders. A quality control review is conducted by the Retirement and Support Services teams to ensure that the information entered into NextGen that is required for payment generation is complete and accurate.

TMRS allows deductions from benefit payments only for health insurance, pursuant to the Healthcare Enhancement for Local Public Safety Officers Act (HELPS), and Federal withholding, as required by the Internal Revenue Service.

Cost of living adjustments (COLAs) are automatically applied to retiree accounts every January pursuant to the city plan provisions that are entered into NextGen by the Deputy Executive Director. The applications of the COLAs to the retiree accounts are verified through a small random sampling based on different COLA adoptions. Modifications to the city plan provisions are restricted to the Deputy Executive Director, his administrative assistant, and NextGen system administrators. Manual adjustments to the COLAs may be required pursuant to various court orders or based on a manual division of benefits between multiple beneficiary payees. The manual adjustments are restricted to the Support Services team and to Member Services management and are verified by a second analyst for accuracy.

A report is generated every month that lists all manual annuity edits, manual Updated Service Credit and Prior Service Credit adjustments and any garnishments that are applied during the month. The report is reviewed and approved by the Director of Member Services to ensure that the manual edits were justified and appropriate.

If a retiree returns to work for the city from where the retiree was last employed, the annuity is suspended until such time that the retiree terminates employment with the re-employing city. Suspended annuity payments are processed by the Support Services team as follows:

- A monthly report is generated by NextGen that identifies retirees who have had a deposit reported for them from the same City from which they retired. Support Services monitors this report and if more than two monthly deposits have been received, the retiree's annuity is suspended. A new membership account is established for the retiree and the original annuity remains suspended until the retiree terminates employment and applies for retirement.
- Retirees who return to work and have a new membership account established begin receiving annual statements again and can review them for possible errors.
- Upon retiring from the post-retirement employment, the suspended annuity is reinstated and the retiree can refund, retire or leave the funds in the new membership.
- If a retiree resumes employment with the reemploying city at least eight years after the effective retirement date, the retiree will receive a lump sum payment equal to the amount of the annuity payments the retiree would have received if the annuity had not been suspended.

After deploying a NextGen update that may affect the retirement calculations, management reviews a small sample of retirement calculations to ensure the annuity and partial lump sum payments are calculated correctly. This review is completed at the following end of month processing.

### **Partial Lump-Sum Distributions**

The Partial Lump Sum Distribution is equal to 12, 24, or 36 times the amount of the Retiree Life Only monthly benefit, but cannot exceed 75% of the member's deposits and interest. The remaining member deposits are combined with the city's funds to pay a lifetime benefit under the selected retirement option.

The Partial Lump Sum Distribution may be chosen with any of the retirement options and is paid in a lump sum with the first retirement payment. This amount may be subject to federal income tax and an additional 10% IRS tax penalty if not rolled over into a qualified plan.

New retirees that elect to receive a Partial Lump Sum Distribution (PLSD) must make the election to receive the PLSD on the retirement application and complete the Selection of PLSD form (TMRS-PLSD).

When the retirement team generates the retirement calculation sheet from NextGen, the distribution is subtracted from the calculated annuity payment. These calculations are also quality checked by a second analyst. All or part of the PLSD payment may be rolled over to an IRA or qualified Employer Plan.

The Deputy Executive Director reviews PLSD payments of \$50,000 or greater prior to issuing the payment. The Deputy Executive Director reviews the report to ensure the payee and payment amounts listed are justified and appropriate.

### **Termination and Refunds of Contributions**

The Records Department scans refund applications into the FileNet system and placed into a work queue. The Retirement and Support Services teams are each responsible for monitoring and processing the applications scanned into the work queue. The refund application contains an employer certification section wherein the city certifies that the member has terminated employment and when the last payroll deposit will be reported to TMRS.

A retirement analyst verifies the member's information to the member's file in TMRS, performs a member signature comparison to previous forms on file, verifies the city's certification of the member's employment termination date, and enters the information into NextGen for the payment to generate. A second quality control check is completed through sight verification and manually checking a box in the system to move the application to payment status. The system will not allow a payment to issue if the box is not checked after the quality control check is completed.

If the member is vested, an estimated retirement benefit is calculated for a future retirement date. The member is given the option to refund, or cancel and leave the funds with TMRS until eligible for retirement. NextGen automatically calculates the amount of the refund based on data entered into the system. Data is pulled from member's active account so errors from data entry are minimized.

Support Services processes refunds for members with a qualified domestic relations order or other legal issues (such as an IRS levy) on file. When the member's final deposit is posted, the final calculation is completed to determine the divorce factor. The divorce factor is entered, and NextGen calculates the payment amounts for each payee. A second Support Services analyst verifies the setup of payments, amounts, and payee information. Support Services also sets up payments for minor beneficiaries, as well as any deaths that require certain court documents to establish the payee representative.

A refund payment will not be generated until the member's final deposit is updated to their account. The retirement analyst enters that date into NextGen and when the final deposit has been received and posted by the Membership Team, the refund is queued for printing.

The retirement team generates an audit that identifies terminated accounts that have account balances greater than zero. Any accounts identified are reviewed and issues are resolved prior to the check run.

All payments, other than monthly annuities and partial lump sum distributions, are generated once a week by the IS department. The payment file is released by the IS department after all processes have been completed by the Retirement Team and is electronically transmitted to ADP, an external check printing company contracted by TMRS. ADP prints and mails the checks directly from their facility in Atlanta, GA. Member Services has the ability to print checks in house if necessary.

## **System Maintenance**

**Control Objective 6:** Controls provide reasonable assurance that modifications to existing systems software are authorized, tested, approved, properly implemented and documented.

### **Access to Implement Changes**

Access to production servers, databases, and application servers is restricted to authorized network operations and database administrator personnel.

### **Windows Server Operating System Patches**

Windows Server operating systems patches are typically applied only after waiting approximately one week after a patch is released. The Network Operations Manager or a Network/Systems Administrator authorizes the installation of patches by generating helpdesk tickets. At least one non-production system is patched before the Production system is patched. Once approval is received from the IS Manager, the Network Operations department installs the patches on the non-production systems and informs the IS Manager so that testing can be performed. Testing should be completed within four business days, unless the Windows patches are installed simultaneously with Oracle and/or WebSphere patches, in which case testing should be completed within five business days. The test results are documented in the ticket. If no issues are discovered, approval is then given by the IS Manager, Network Operations Manager, or a Network Administrator and the patches are installed in Production within ten business days. The production test results are documented in the helpdesk ticket.

### **VMware ESX(i) Hosts**

VMware ESX hosts patches are generally installed approximately four weeks after release, unless an emergency security or functionality update is required sooner. VMware Update Manager is used to deploy patches. One host is updated and run in production for at least 24 hours to ensure stability and compatibility before other hosts are updated. The Network Operations Manager or a Network/Systems Administrator authorizes and approves the patching, which is documented using the helpdesk ticketing system. Large release updates may be delayed to ensure compatibility with existing backup software and other virtualization platforms (e.g. Citrix).

### **Application Servers (Oracle and IBM WebSphere)**

Application server patches are deployed based on compatibility with other software and the level of risk from external exposure. Unless there are critical bugs or security issues, installation of patches is considered each quarter. Patch deployment is fully tested to ensure application compatibility. The patches are installed by a Network/Systems Administrator. Patches are installed in the Development and/or Test environment at the IS Manager's discretion. The decision to not patch is documented in a helpdesk ticket. If patching proceeds and no issues are discovered, the patches are installed in Production within one month. The authorization to patch and the testing results are documented in a helpdesk ticket.

## **Databases**

Oracle databases are patched on an as-needed basis, but checks for updates are performed quarterly. Compatibility issues dictate the patch rollout schedule. Patches are authorized and approved by a Database Administrator or IS Manager. At least one non-production system is patched before the Production system is patched. Once approval is received from a Database Administrator or the IS Manager, the Database Administrator installs the database patches and informs the IS Manager so that testing can be performed. Testing should be completed within 5 business days and the test results are documented in a helpdesk ticket. The decision to proceed or not proceed with a patch is documented in a ticket, and if patched the test results will be documented in the ticket.

## Applications Maintenance

**Control Objective 7:** Controls provide reasonable assurance that modifications to applications are authorized, tested, approved, properly implemented and documented.

The change management process for TMRS' internally developed applications is directed by TMRS Software Development Department. The department collaborates with other departments in the organization, forming a change control board (CCB). The CCB reviews change requests, both for new functionality and to fix defects, to approve and prioritize updates to NextGen MBS.

Change requests can be submitted by business users or IT staff. Each department designates one or more individuals to coordinate submissions to eliminate redundancy and have some level of review over submitted items. The change requests are entered into a change tracking database and managed until they are completed or dismissed by the CCB.

Change management meetings are scheduled as needed depending on the number and urgency of the unresolved issues since the last meeting. The Information Resources department provides an agenda of items submitted since the last meeting, and includes any open requests from previous meetings. The purpose of this meeting is to:

- Bring all required parties together to assess the feasibility, business need, and priority of implementing requested changes to computer systems
- Review the status of all open change requests and discuss any changes to previously scheduled releases
- Authorize, disapprove, or defer to a future meeting each change request
- If authorized, assign the change request to a future release

Multiple logically separate application environments exist for development, testing, and production. The software developer retrieves the source code for updating the application from TMRS code management library. He or she then modifies the source based upon specifications defined in the change request.

The updated code is combined with other changes slated for release and tested by quality assurance personnel. This step makes sure the new code works as expected and hasn't caused any other application code to function improperly. After quality assurance testing, user acceptance testing (UAT) allows the user, particularly the subject matter expert (SME), to test the software before its final release.

After approval by the Information Systems (IS) Manager or Senior Systems Analyst, the updated code is then migrated to production by a system administrator for use by TMRS employees, members, and retirees. Access to migrate application changes into production is restricted to authorized personnel, which do not include development personnel.

Rarely, emergency changes may be necessary to recover from a system failure, hardware problems or application problems when work-arounds are not possible or will have a significant impact on usability or productivity. Emergency changes provide the flexibility required for the timely response to immediate problems. These problems include fixes to prevent recurring/imminent system failure, negative impact on business or production problems. These changes must be authorized by a member of the Senior Management Team.

Developer access was granted to the NextGen application to assist with production issues from January 1, 2014 through February 18, 2014. Their activity was logged and monitored by the IT Manager to help ensure the developer activities were in response to production issues.

## Logical Access

**Control Objective 8:** Controls provide reasonable assurance that logical access to programs and data is granted to appropriately authorized individuals.

TMRS has a Windows network environment and uses Active Directory for user access authentication and authorization to network resources. Access privileges to NextGen are also granted through Active Directory through the use of group assignments. Network and Active Directory access rights are managed by the Network Operations Department. Access to the Oracle database supporting NextGen is granted through Oracle and is managed by the database administrator and IS Manager. Inbound and outbound access to the TMRS network is further restricted by a firewall which is monitored and updated by the Network Operations Manager.

## Granting Access

Before granting access for new hires, the Human Resources department or the employee's manager approves access by submitting a Help Desk ticket listing the systems to which the employee is to have access based on their job responsibilities and the date on which the access should begin. A network administrator sets up the access as requested by the manager. Modifying or revoking access to the NextGen environment follows the same procedure. The new hire and terminations list are manually-maintained by the Director of HR and are updated on a case by cases basis.

## Authentication

Access to the TMRS network and NextGen requires dual-factor authentication using a username and password and a security token issued to the employee when access is first granted. TMRS personnel are assigned individual user accounts and there is no sharing of user accounts. Access to the NextGen database requires a username and password.

## Password Policies

TMRS requires all passwords within its IT environment to conform to the following constraints:

- Passwords must be at least fifteen characters long.
- Passwords must contain at least three of the following four components:
  - an upper-case letter,
  - a lower-case letter,
  - a number, or
  - a special character.
- Passwords must be changed at least every 365 days.
- Last six passwords cannot be used.

- Users who submit an incorrect password ten sequential times will be automatically locked out of the system.

Password configurations are set for each layer to which users log in—Active Directory for Windows operating system and NextGen application access, and Oracle for database access.

### **Review of User Access Privileges**

An annual review of employee permissions is initiated by TMRS' Network Operations Department. In this review, a member of the Network Operations Department will produce a report detailing the computer and network privileges of each TMRS employee. This report is then reviewed with each manager and director to ensure that each employee has appropriate access to TMRS' computer resources based on his or her job duties.

### **Administrative Access**

Administrative access to production network, servers, databases and the hypervisor management console is restricted to a limited amount of personnel. Determination of access appropriateness is based upon job function and other conflicting system access.

## Backups

**Control Objective 9:** Controls provide reasonable assurance that data and systems are backed up on a scheduled basis and stored in an offsite location.

TMRS employs an online backup service provider to encrypt and backup its data. Backups are completed each weekday and monthly backups with a longer retention period occur at the beginning of each month. Database transaction logs are backed up hourly during business hours, seven days a week. Data is compressed and encrypted to a local backup appliance. A copy of the encrypted backup is also securely transmitted to the offsite service provider immediately after completion. The success or failure of a backup is reported by the backup application via email to Network Operations Personnel and reviewed daily. Any errors or failures are investigated and resolved.

Administrative access to the backup scheduler is required for schedule modifications. Access to the backup scheduler and backups is restricted to Network Operations Personnel.

Backups are formally tested on an annual basis. System administrators restore backups of NextGen, Great Plains, FileNet and other applications to disaster recovery hardware. Each application functionality is then tested to ensure the restore was successful.

## Physical Access

**Control Objective 10:** Controls provide reasonable assurance that physical access to computer equipment, storage media and documentation is restricted to properly authorized individuals.

Physical security of TMRS' employees, data and data systems is of paramount importance. Security begins with controlled access of the building and includes additional levels of security within the facility.

Access to the building is secured by card access. During business hours access to the building is monitored, both personally and remotely by camera, by security personnel. Access to the building is issued based on need for access to the building, and security level within the building. The access level is controlled/granted by the Deputy Executive Director based on the written request of each employee's managing Director. Access cards issued to employees maintain a unique badge number that is assigned to the employee. Card readers use this badge assignment to allow access to the building during assigned times, as well as to allow access to secure areas (data centers and other secure areas) within the facility. This access card system is utilized to log access to, and prevent unauthorized access to TMRS facilities. An access granted/denied access log is obtained and reviewed quarterly by the Deputy Executive Director.

Visitors to TMRS must be granted access by the receptionist. Once inside the building, visitors must register with the receptionist identifying either the company they represent or the reason for their visit. A temporary visitors badge/name tag is issued to each visitor and must be worn throughout their visit.

Access to TMRS' data centers and other secure areas, as mentioned above, is controlled by card readers. The card readers are part of an access system that maintains a log of the unique employee id number that is granted access, as well as the ID numbers of instances where access is denied. Visitors to these controlled areas must be escorted at all times by an employee who is authorized to access these areas.

Employee access card requests are submitted via a help desk request by the Director managing the employee. Once the Deputy Executive Director concurs with the access level requested, an access card is issued for that employee. This dual authorization process ensures that employees are granted access consistent with the employee's job function within the organization. Access requests to the data center must be approved by the Director of Information Resources and the Deputy Executive Director, and are granted solely based on a business need for the employee to perform essential job duties.

Authorized badge requests are processed by the Deputy Executive Director and the related request form is archived in the helpdesk ticket system. The Deputy Executive Director also signs off on the employee orientation checklist once the access card is presented to the employee and building security has been explained. User access to the card access system is restricted to the Deputy Executive Director and the Director of Information Resources. Only those individuals are authorized to make changes to the database, user access levels, and to create badges.

Immediate notification is given to the Deputy Executive Director upon voluntary or involuntary termination of employment, and the terminated employee's badge is collected, deactivated, and stored by the Deputy Executive Director. This notification is generally facilitated via direct contact from the Director of Human Resources, followed by a helpdesk ticket for immediate action. Once the access card has been deactivated, it is noted in a response to the helpdesk ticket, and the ticket is archived in the helpdesk system. The deactivated badges are maintained by the Deputy Executive Director.

## Complementary User Entity Controls

Many aspects of the pension processes at TMRS are dependent on the processes that occur at the municipality (also known as a “user entity”).

The items listed below are internal control responsibilities that TMRS believes should be present at each participating municipality. Each municipality must evaluate its own internal controls to determine if the following are in place and operating effectively. The following list is intended to address only those controls surrounding the data and communications between TMRS and the municipality. Accordingly, the list below does not purport to be and is not a complete listing of the control activities that provide a basis for an opinion of the financial statements of the municipality.

- Controls should be established to ensure municipal representatives (city correspondents) are authorized to create TMRS-16 forms for new member enrollment data.
- Controls should be established to ensure municipal representatives are responsible for determining if workers are “employees” under the TMRS Act and for providing employee eligibility data to TMRS.
- Controls should be established to ensure municipal representatives are responsible for maintaining plan documents.
- Controls should be established to ensure municipal representatives are responsible for ensuring all plan amendments (i.e., ordinances) are forwarded to TMRS in a timely manner.
- Controls should be established to ensure municipal representatives are responsible for providing TMRS with information that is accurate, complete, properly authorized (if applicable), and in accordance with plan guidelines.
- Controls should be established to ensure payroll amounts included in the TMRS-3 forms submitted to TMRS are complete and accurate.
- Controls should be established to ensure only appropriate municipal representatives are authorized to certify the Summary of Monthly Payroll Report (TMRS-3).
- Controls should be established to ensure that municipal representatives are responsible for the timely remittance of contributions to TMRS (by the 15th of the month).
- Controls should be established to ensure municipal representatives are responsible for providing TMRS updated personnel and payroll files, including ensuring that deposits correctly correspond with the appropriate Social Security number as needed for the operation and maintenance of the plan.
- Controls should be established to ensure municipal representatives are responsible for notifying TMRS of any manual adjustments needed to the payroll files/TMRS-3 Form.

- Controls should be established to ensure only appropriate municipal representatives are authorized to certify the Application for Occupational Disability Retirement form (TMRS-15/O).
- Controls should be established to ensure only appropriate municipal representatives are authorized to certify the Application for Retirement form (TMRS-15).
- Controls should be established to ensure only appropriate municipal representatives are authorized to certify the Refund Application (TMRS-5).
- Controls should be established to ensure access to PCs/terminals (containing payroll and TMRS-related information) is limited to authorized and appropriate individuals.

# IV. The Texas Municipal Retirement System's Control Objectives, Related Controls, and the Independent Service Auditor's Description of Tests of Controls and Results

## Census Reports

<b>Control Objective 1: Controls provide reasonable assurance that reporting of participant census to the TMRS outside actuary is complete and accurate.</b>			
<b>Control Number</b>	<b>Description of Controls</b>	<b>Tests of Controls</b>	<b>Results of Testing</b>
1.01	Executive Management reviews plan changes to determine whether they were entered into NextGen accurately and documents their review in the plan change cover memo.	For a selection of plan changes, inspected the city plan screen in NextGen and determined that changes were entered accurately.	No exceptions noted.
		For a selection of plan changes, inspected the cover memo included with the change and determined that it was reviewed by Executive Management.	No exceptions noted.
		For a selection of plan changes, inspected the ordinance and determined that it was signed by a city official.	No exceptions noted.
1.02	Access to modify plan changes in NextGen is restricted to authorized individuals, including the Deputy Executive Director, his designated backup, and NextGen System Administrators.	Inspected an Active Directory group listing of users allowing modifications to plan changes and determined that access is restricted to authorized individuals, including the Deputy Executive Director, his designated backup, and NextGen System Administrators.	No exceptions noted.
1.03	A year-end calendar, or checklist documenting key activities to identify missing member date of birth, salary, and gender data is performed by Member Services.	Inspected the year-end calendar and corresponding documentation and determined the events were completed as scheduled.	No exceptions noted.
1.04	Information Resources performs a review of the active actuarial file for completeness and accuracy before sending to the outside actuary.	Inspected a log of data validation queries run against the active actuarial file by the Information Systems Manager and their results and determined a review of the completeness and accuracy of the active member file sent to the outside actuary was performed.	No exceptions noted.
1.05	Information Resources performs a review of the retiree actuarial file for completeness and accuracy before sending to the outside actuary.	Inspected a log of data validation queries run against the retiree actuarial file by the Senior Systems Analyst and their results and determined a review of the completeness and accuracy of the retiree member file sent to the outside actuary was performed.	No exceptions noted.

**Control Objective 1: Controls provide reasonable assurance that reporting of participant census to the TMRS outside actuary is complete and accurate.**

Control Number	Description of Controls	Tests of Controls	Results of Testing
1.06	Information Resources reviews and resolves the list of exceptions noted in the active and retiree actuarial files by the outside actuary.	Inspected the lists of exceptions noted in the active and retiree actuarial files by the outside actuary and inspected documentation of Management's activities and determined management investigated and resolved the exceptions noted.	No exceptions noted.

**Conclusion**

Based on the tests of operating effectiveness described above, controls were operating with sufficient effectiveness to achieve this control objective.

## Contributions

<b>Control Objective 2: Controls provide reasonable assurance that contributions are completely and accurately posted to the employee and employer accounts in the proper period.</b>			
<b>Control Number</b>	<b>Description of Controls</b>	<b>Tests of Controls</b>	<b>Results of Testing</b>
2.01	After uploading the cities' contribution rates from the outside actuary into NextGen, Information Resources compares the rates in NextGen to the rates from the outside actuary to confirm the rates were uploaded completely and accurately.	Inspected the Excel spreadsheet comparing the rates in NextGen to the rates from the outside actuary to identify differences and determined a comparison of the rates was completed by management and no differences were noted.	No exceptions noted.
2.02	Access to modify contribution rates in NextGen is restricted to authorized individuals, including the Deputy Executive Director, his administrative assistant, and NextGen System Administrators.	Inspected list of users in the NPrdCtyAdmin Active Directory group allowing modifications to plan changes and determined access is restricted to authorized individuals, including the Deputy Executive Director, his administrative assistant, and NextGen System Administrators.	No exceptions noted.
2.03	Accounting personnel compare the actual cash received by check to the accompanying TMRS-3 form to ensure contributions are accurately recorded.	Inspected a selection of monthly payroll contributions received by check and associated TMRS-3 forms and determined the total amount of the check was accurately reflected on the TMRS-3.	No exceptions noted.
2.04	Member Services personnel review the "Payrolls Not Received" report and send notifications to municipalities that have not submitted payroll contributions in a timely manner.	Inspected a selection of monthly "Payrolls Not Received" reports and determined the reports were reviewed by Member Services.  For a selection of municipalities identified from the months selected above, inspected letters and determined TMRS notified the municipalities that had not submitted payroll contributions in a timely manner.	No exceptions noted.
2.05	The ability to allocate cash is separated from the ability to enter cash receipts through logical access controls.	Inspected the listing of Oracle users and inspected an Active Directory group listing of users and determined access to allocate cash is properly restricted to Member Services, access to enter cash receipts is properly restricted to Accounting and no user has both of these access rights.	No exceptions noted.

**Control Objective 2: Controls provide reasonable assurance that contributions are completely and accurately posted to the employee and employer accounts in the proper period.**

Control Number	Description of Controls	Tests of Controls	Results of Testing
2.06	The Accounting Operations Supervisor performs an annual reconciliation of contribution and distribution activity in NextGen to Great Plains. The Director of Finance reviews the reconciliation to ensure it was performed.	Inspected the BAF Reconciliation Summary report from NextGen and the BAF Reconciliation Summary spreadsheet and determined the Accounting Operations Supervisor performed, and the Director of Finance reviewed the reconciliation of contribution and distribution activity in NextGen to Great Plains.	No exceptions noted.

**Conclusion**

Based on the tests of operating effectiveness described above, controls were operating with sufficient effectiveness to achieve this control objective.

## Income Allocation

<b>Control Objective 3: Controls provide reasonable assurance that income allocations are completely and accurately posted to the employer accounts based on amounts approved by the Board of Trustees.</b>			
<b>Control Number</b>	<b>Description of Controls</b>	<b>Tests of Controls</b>	<b>Results of Testing</b>
3.01	The Benefit Accumulation Fund annual income allocation rate is approved by the Board of Trustees.	Inspected minutes from the March Board of Trustees meeting and determined that an allocation rate was approved by the Board.	No exceptions noted.
3.02	The Director of Finance reviews the Great Plains journal entry to allocate the income to all cities BAF and recalculates the income credit for a selection of cities to confirm the completeness and accuracy of the allocation.	Inspected the Great Plains journal entry that was posted and supporting documentation and determined the journal entry had an effective date of 12/31 and determined the Director of Finance performed a review.	No exceptions noted.
		Inspected the interest income recalculations performed by the Director of Finance and determined the recalculation was performed, the rate agreed with the rate approved by the Board, and the interest was allocated accurately.	No exceptions noted.
		Reperformed the interest income calculation for a selection of the cities and determined the allocated amount was accurate.	No exceptions noted.

## Conclusion

Based on the tests of operating effectiveness described above, controls were operating with sufficient effectiveness to achieve this control objective.

## Fund Balances

<b>Control Objective 4: Controls provide reasonable assurance that fund balances are reconciled and reported accurately and completely.</b>			
<b>Control Number</b>	<b>Description of Controls</b>	<b>Tests of Controls</b>	<b>Results of Testing</b>
4.01	The Director of Finance reviews and approves the accuracy and completeness of the allocation of the annual activity of the Supplemental Disability Benefits, Endowment and Expense funds as of December 31 submitted to the outside consulting actuary.	Inspected the documentation supporting the allocation of the funds activities submitted to the outside consulting actuary and determined the Director of Finance reviewed and approved the allocation of the Supplemental Disability Benefits, Endowment and Expense funds.	No exceptions noted.
4.02	The Accounting Operations Supervisor performs an annual reconciliation of contribution and distribution activity in NextGen to Great Plains. The Director of Finance reviews the reconciliation to ensure it was performed.	Inspected the BAF Reconciliation Summary report from NextGen and inspected the BAF Reconciliation Summary spreadsheet and determined the Accounting Operations Supervisor performed, and the Director of Finance reviewed the reconciliation of contribution and distribution activity in NextGen to Great Plains and any permanent differences were identified and tracked.	No exceptions noted.

### Conclusion

Based on the tests of operating effectiveness described above, controls were operating with sufficient effectiveness to achieve this control objective.

## Distributions

<b>Control Objective 5: Controls provide reasonable assurance that distributions (i.e., disability, partial lump-sum, refunds, and service retirements) are authorized and processed accurately, completely, and in a timely manner in accordance with employer plan provisions.</b>			
<b>Control Number</b>	<b>Description of Controls</b>	<b>Tests of Controls</b>	<b>Results of Testing</b>
5.01	The Application for Occupational Disability Retirement (TMRS-15/O form) is signed by the employee and certified by the employer prior to the disbursement of disability payments.	Inspected TMRS-15/O forms for a selection of new disability retirees and determined it was signed by the employee and certified by the employer prior to the disbursement of payments.	No exceptions noted.
5.02	The Medical Board Report for Occupational Disability (TMRS-43 form) is completed by the Medical Board prior to the disbursement of disability payments.	Inspected TMRS-43 forms for a selection of new disability retirees and determined it was signed by at least two members of the acting Medical Board prior to the disbursement of payments.	No exceptions noted.
5.03	The Application for Service Retirement (TMRS-15 form) is signed by the employee and certified by the employer prior to the disbursement of annuity payments.	Inspected the TMRS-15 forms for a selection of new service retirees and determined it was signed by the employee and certified by the employer prior to the disbursement of payments.	No exceptions noted.
5.04	Management reviews the calculations of annuity payments and partial lump sum payments after deploying NextGen updates.	Inspected testing results for the one deployment during the period and noted the testing results included a recalculation of annuity and partial lump sum payments. Also noted results were in accordance with expectations and reviewed by management.	No exceptions noted.
5.05	Member Services reviews retirement annuity calculations and compares against the last issued pension estimate to identify and resolve any differences greater than \$10 to ensure the accuracy of the calculation.	For a selection of new retirees, inspected the "All Papers in Order" (APIO) letter and inspected the Annuity Change History in Nextgen and if the actual amount differed from the estimate by greater than \$10, inspected explanatory note in NextGen to determine whether management resolved the difference.	No exceptions noted.
5.06	Annuity payments for new retirees over \$5,000 are recalculated for accuracy by completing the Retirement Calculation Worksheet and are reviewed by a Member Services Manager prior to distribution and also reviewed by the Member Services Director and the Deputy Executive Director.	For a selection of new annuities over \$5,000, inspected the Retirement Calculation Worksheet, Manager Review Sheet, and Retirement Transfer Report and determined they were reviewed by the Deputy Executive Director, Director of Member Services, and Member Services Manager, respectively, prior to the distribution of funds.	No exceptions noted.

<b>Control Objective 5: Controls provide reasonable assurance that distributions (i.e., disability, partial lump-sum, refunds, and service retirements) are authorized and processed accurately, completely, and in a timely manner in accordance with employer plan provisions.</b>			
<b>Control Number</b>	<b>Description of Controls</b>	<b>Tests of Controls</b>	<b>Results of Testing</b>
5.07	Member Services performs monthly retirement setup review of new annuities (i.e., disability and retirement) paid to ensure data accuracy of inputs.	For a selection of months, inspected the Retirement Setup Review report to determine whether it was reviewed by a Member Services Manager.	Exceptions noted:  One of three months selected was not reviewed in a timely manner. The Retirement Setup Review report was not reviewed until June 2014.
5.08	Member Services completes a review checklist to ensure all death matches from the Texas Department of State Health Services (DSHS) and The Berwyn Group (BG) are entered into NextGen accurately.	Inspected the DSHS death report checklists for a selection of weeks and determined they were completed by Member Services.	No exceptions noted.
		Inspected the BG death report checklists for a selection of months and determined they were completed by Member Services.	No exceptions noted.
		For a selection of new deaths noted in the BG and DSHS reports, inspected the corresponding NextGen screens and determined the deaths were accurately entered into NextGen.	No exceptions noted.
5.09	Member Services performs a review of COLA adjustments to validate they are accurately applied to annuity payments (i.e., service retirements).	Inspected a signed hard copy of an Excel validation spreadsheet of annuities after the COLA rate update and determined the rates were validated by Member Services.	No exceptions noted.
5.10	The Director of Member Services reviews the “Manual Annuity and USC/PS Credits” report to identify unauthorized changes to employee balances.	Inspected the Management Review of “Manual Annuity and USC/PS Edits” report for a selection of months and determined the Director of Member Services confirmed each change was appropriate.	No exceptions noted.
5.11	The Application for Service Retirement (TMRS-15 form) and Selection of Partial Lump Sum Distribution (TMRS-PLSD form) are signed by the employee and the TMRS-15 is certified by the employer prior to the disbursement of partial lump sum distributions (PLSDs).	Inspected the TMRS-15 and TMRS-PLSD forms for a selection of PLSDs paid and determined they were signed by the employee and the TMRS-15 form was certified by the employer prior to disbursement.	No exceptions noted.

<b>Control Objective 5: Controls provide reasonable assurance that distributions (i.e., disability, partial lump-sum, refunds, and service retirements) are authorized and processed accurately, completely, and in a timely manner in accordance with employer plan provisions.</b>			
<b>Control Number</b>	<b>Description of Controls</b>	<b>Tests of Controls</b>	<b>Results of Testing</b>
5.12	Partial Lump Sum Distributions (PLSDs) of \$50,000 or more require approval by the Deputy Executive Director.	Inspected the monthly Large Payments Listing for a selection of PLSDs greater than \$50,000 paid and determined the Deputy Executive Director approved the distributions.	No exceptions noted.
5.13	Refunds of contributions (i.e., withdrawals) are certified by the employer prior to disbursement.	Inspected the Refund Application (TMRS-5 form) for a selection of refunds paid and determined it was certified by the employer.	No exceptions noted.
5.14	Monthly TMRS Terminated Accounts with Non Zero Balance reports are reviewed by Member Services to resolve withdrawn accounts with balances.	Inspected a selection of TMRS Terminated Accounts with Non Zero Balance reports and determined the reports were reviewed by Member Services.	No exceptions noted.
5.15	The ability to set up new members is separated from the ability to setup new payees (i.e., retirees) through access controls.	Inspected the Active Directory group listing of users and determined access to set up a new member was restricted to the Membership team and the Support Services team and access to enter retirements is restricted to the Retirements team and the Call Center team and no user has both of these access rights.	No exceptions noted.
5.16	Access to create disbursement files from NextGen and access to release the disbursement files via phone (i.e., InfoDex) is segregated between IT personnel and Accounting personnel.	Inspected the Oracle roles to determine whether access to create disbursement files was restricted to IT personnel and inspect access to InfoDex to determine whether access to release disbursement files is restricted to Accounting personnel.	Exceptions noted: Noted one of four employees retained InfoDex access in June 2014 after their termination date of March 2, 2014. Inspected list of employees with InfoDex access in February 2015 and noted the access for the terminated employee had been removed.

**Control Objective 5: Controls provide reasonable assurance that distributions (i.e., disability, partial lump-sum, refunds, and service retirements) are authorized and processed accurately, completely, and in a timely manner in accordance with employer plan provisions.**

Control Number	Description of Controls	Tests of Controls	Results of Testing
5.17	The Accounting Operations Supervisor performs an annual reconciliation of contribution and distribution activity in NextGen to Great Plains. The Director of Finance reviews the reconciliation to ensure it was performed.	Inspected the BAF Reconciliation Summary report from NextGen and the BAF Reconciliation Summary spreadsheet and determined the Accounting Operations Supervisor performed, and the Director of Finance reviewed the reconciliation of contribution and distribution activity in NextGen to Great Plains and any permanent differences were identified and tracked.	No exceptions noted.

**Conclusion**

Based on the tests of operating effectiveness described above, controls were operating with sufficient effectiveness to achieve this control objective.

## System Maintenance

<b>Control Objective 6: Controls provide reasonable assurance that modifications to existing systems software are authorized, tested, approved, properly implemented and documented.</b>			
<b>Control Number</b>	<b>Description of Controls</b>	<b>Tests of Controls</b>	<b>Results of Testing</b>
6.01	Operating system changes are authorized, tested, approved, and documented by a manager.	Inspected a selection of operating system changes and determined changes were authorized, tested, approved, and documented by a manager prior to migrating to production.	No exceptions noted.
6.02	Access to migrate operating system changes into production is restricted to authorized personnel, which do not include development personnel.	Inspected the list of administrative users to the production servers and determined access was appropriate and developers did not have administrative access.	No exceptions noted.
6.03	Database changes are authorized, tested, approved, and documented by a manager prior to migrating to production.	Inspected a selection of database changes and determined changes were authorized, tested, approved, and documented by a manager prior to migrating to production.	No exceptions noted.
6.04	Access to migrate database changes into production is restricted to authorized personnel, which do not include development personnel.	Inspected the list of administrative users to the production database and determined access was appropriate and developers did not have administrative access.	No exceptions noted.

### Conclusion

Based on the tests of operating effectiveness described above, controls were operating with sufficient effectiveness to achieve this control objective.

## Applications Maintenance

<b>Control Objective 7: Controls provide reasonable assurance that modifications to applications are authorized, tested, approved, properly implemented and documented.</b>			
<b>Control Number</b>	<b>Description of Controls</b>	<b>Tests of Controls</b>	<b>Results of Testing</b>
7.01	Application changes are documented, and authorized by a manager before development activities begin.	Inspected the Spiceworks ticket and associated emails for the one deployment during the period and determined changes were documented, and authorized by a manager before development activities began.	No exceptions noted.
7.02	Application changes are tested and approved before being implemented in production.	Inspected the Spiceworks ticket and associated emails for the one deployment during the period and determined changes were tested and approved before being implemented in production.	No exceptions noted.
7.03	Emergency changes are documented, authorized and tested before they are migrated into production.	Inspected Spiceworks tickets and associated documentation for a selection of emergency changes to determine whether changes are tested and approved before being implemented in production. Inquired of management and inspected modification dates of system files and determined no emergency changes occurred during the period.	We are unable to conclude as there were no emergency changes during the period.
7.04	Separate environments exist for development and testing, and production.	Inquired of management and inspected server lists and determined that separate development, test, and production environments have been established.	No exceptions noted.
7.05	Access to migrate application changes into production is restricted to authorized personnel, which do not include development personnel.	Inspected a list of administrative users to the production servers and database and determined access was restricted to authorized individuals based on their job requirements and developers did not have administrative access to the production servers and database.	No exceptions noted.
7.06	Developer access to the production application was monitored by the IT Manager through February 18, 2014.	Inspected the developer monitoring reports for January and February 2014 and determined developer access was monitored and reviewed by the IT Manager and the monitoring reports completely and accurately displayed all changes.	No exceptions noted.

**Conclusion**

Based on the tests of operating effectiveness described above, controls were operating with sufficient effectiveness to achieve this control objective.

## Logical Access

Control Objective 8: Controls provide reasonable assurance that logical access to programs and data is granted to appropriately authorized individuals.			
Control Number	Description of Controls	Tests of Controls	Results of Testing
8.01	<p>Application password configuration settings are controlled by Active Directory and are as follows:</p> <ul style="list-style-type: none"> <li>• Min length = 15 characters</li> <li>• Complexity enforced</li> <li>• Password expiration = 365 days (configured indiv. for each user)</li> <li>• Failed logon attempts = 10</li> </ul>	Inspected Active Directory group policy and determined the password configuration settings were in accordance to TMRS policy.	No exceptions noted.
8.02	<p>Operating system password configuration settings are as follows:</p> <ul style="list-style-type: none"> <li>• Minimum password length = 15 characters</li> <li>• Complexity requirements are enforced</li> <li>• Password expiration = 365 days</li> <li>• Failed logon attempts before lockout = 10 attempts</li> </ul> <p>Passwords for the hypervisor host operating system only enforce minimum length and failed logon attempts due to compatibility issues with production systems.</p>	Inspected Active Directory group policy and determined the password configuration settings were in accordance to TMRS policy.	No exceptions noted.
		Inspected the hypervisor host operating system password configurations and determined minimum length and lockout parameters were set in accordance to policy.	No exceptions noted.

**Control Objective 8: Controls provide reasonable assurance that logical access to programs and data is granted to appropriately authorized individuals.**

Control Number	Description of Controls	Tests of Controls	Results of Testing
8.03	Database password configuration settings are as follows: <ul style="list-style-type: none"> <li>• Minimum password length = 15 characters</li> <li>• Complexity requirements are enforced</li> <li>• Password expiration = 365 days</li> <li>• Failed logon attempts before lockout = 10 attempts</li> </ul>	Inspected Oracle database password configuration to determine whether passwords for profiles assigned to users, including administrative IDs, were set in accordance to policy.	Exceptions noted: Three of four Oracle profiles did not have passwords configured in accordance to policy from January 1, 2014 to July 11, 2014. Two profiles did not have minimum length, complexity, or expiration enforced. The third profile did not have expiration enforced.
8.04	Administrator access to the production network, servers, databases and hypervisor management console is restricted to authorized individuals based on their job requirements.	Inspected lists of users with administrative access to the production network, inspected the organizational chart and inquired of management to determine whether access is restricted to authorized individuals based on their job requirements.	Exceptions noted: One service ID remained active after it was no longer needed. Inspected the lists of users on February 18, 2014, and determined the account was disabled.
		Inspected the list of administrative users to the production servers and database servers and determined access was appropriate and developers did not have access to the production servers and database.	No exceptions noted.
		Inspected the list of administrative users on the hypervisor management console, inspected the organizational chart and inquired of management and determined access is restricted to authorized individuals based on their job requirements.	No exceptions noted.
		Inspected lists of users with administrative access to the application, database and servers and determined no user had administrative access to all layers of the system.	No exceptions noted.

<b>Control Objective 8: Controls provide reasonable assurance that logical access to programs and data is granted to appropriately authorized individuals.</b>			
<b>Control Number</b>	<b>Description of Controls</b>	<b>Tests of Controls</b>	<b>Results of Testing</b>
8.05	Database administrator access to the production databases is restricted to authorized individuals.	Inspected the list of users with DBA role in the database, inspected the organizational chart and inquired of management and determined users with administrative access in the database is restricted to authorized individuals based on their job requirements.	No exceptions noted.
8.06	Administrative access to the NextGen application is restricted to authorized individuals.	Inspected the list of NextGen administrators, inspected the organizational chart and inquired of management and determined administrative access is restricted to authorized individuals based on their job requirements.	No exceptions noted.
8.07	New employee access is approved by the hiring manager or HR Department and documented in a ticketing system.	Inspected approval tickets for a selection of new hires to determine whether access is approved by manager or HR Department.	No exceptions noted.
8.08	Upon termination, IT personnel change the password for the terminated user's network account and disable server and database accounts.	Inspected the list of terminated users and inspected lists of users on the servers and databases and determined terminated user accounts were disabled.	No exceptions noted.
8.09	A periodic user access review is performed for all operating system, database, and application accounts by the employee's supervisor.	Inspected documentation of the annual user access review and determined the review was performed by the employee's supervisor. Inspected users lists for a selection of users identified as needing access modification and determined the access modification was performed.	No exceptions noted.
8.10	The perimeter firewall and routers are configured to prevent unauthorized access. Access to the firewall and routers is restricted to authorized individuals.	Inspected the firewall configuration and determined it is configured to restrict traffic to and from the TMRS network and administrative access is restricted to TMRS network administrators.	No exceptions noted.

## Conclusion

Based on the tests of operating effectiveness described above, controls were operating with sufficient effectiveness to achieve this control objective.

## Backups

<b>Control Objective 9: Controls provide reasonable assurance that data and systems are backed up on a scheduled basis and stored in an offsite location.</b>			
<b>Control Number</b>	<b>Description of Controls</b>	<b>Tests of Controls</b>	<b>Results of Testing</b>
9.01	Daily and monthly full backups are performed for the data and system files and backups are replicated to an offsite storage site.	Inspected the backup schedulers for servers and databases and determined backups were configured to be performed daily and monthly.	No exceptions noted.
		Inspected the backup logs for a selection of days and determined incremental and full backups were performed successfully.	No exceptions noted.
		Inspected the replication logs from the offsite location and determined backup files were maintained offsite.	No exceptions noted.
9.02	Administrative access to the backup schedulers is restricted to appropriate individuals.	Inspected users with administrative access to the backup scheduler and determined access is restricted to network administrators.	No exceptions noted.
9.03	The backup tools are configured to notify the administrator group of backup errors and failures, which are investigated and resolved.	Inspected the backup scheduler and determined the administrator group was configured to be notified of backup errors.	No exceptions noted.
		Inspected the backup logs for a selection of days to determine whether administrators were notified of backup failures. Inquired of management to determine whether backup failures occurred and whether management was notified.	We were unable to test this control as there were no backup failures noted for production servers.
9.04	Backup files are tested on an annual basis to ensure successful restoration of data.	Inspected restoration test documentation and determined backup files were restored from backups on an annual basis.	No exceptions noted.

## Conclusion

Based on the tests of operating effectiveness described above, controls were operating with sufficient effectiveness to achieve this control objective.

## Physical Access

Control Objective 10: Controls provide reasonable assurance that physical access to computer equipment, storage media and documentation is restricted to properly authorized individuals.			
Control Number	Description of Controls	Tests of Controls	Results of Testing
10.01	Access to facilities, including the server room, is restricted to authorized individuals based on their job requirements.	Inspected list of users with access to server room and inquired of management and determined access was restricted to authorized individuals based on their job requirements.	No exceptions noted.
10.02	Access to office is secured by card readers.	Observed access points to office and to data center and determined card readers were in place to restrict access.	No exceptions noted.
10.03	New employees are granted access to the facility after their manager submits an access card application with the manager's approval.	Inspected access approvals for a selection of new hires and determined management approved the new hires' access.	No exceptions noted.
10.04	Physical access (i.e., badges) of terminated employees is disabled.	Inspected list of terminated users and inspected list of users with access to facilities and the server room and determined the terminated users' access was disabled.	No exceptions noted.
		Inquired of management and were informed that badges were obtained and secured by management upon termination.	No exceptions noted.
10.05	Access to facilities is reviewed quarterly by management for appropriateness.	Inspected the access review for selection of quarters and inquired of management and determined reviews were performed.	No exceptions noted.
10.06	Visitors are required to sign a visitor's log upon entry to record their name, date, company, the name of the person they are meeting with and their departure date/time.	For a selection of days, observed visitors enter the facility and inspected the visitor's log at receptionist's desk and determined visitors were required to provide an ID and to sign the visitor's log, and a TMRS employee escorted the visitors within the building.	No exceptions noted.

## Conclusion

Based on the tests of operating effectiveness described above, controls were operating with sufficient effectiveness to achieve this control objective.