Form No. DMB 234 (Rev. 1/96)
AUTHORITY: Act 431 of 1984
COMPLETION: Required
PENALTY: Contract will not be executed unless form is filed

**STATE OF MICHIGAN**
**DEPARTMENT OF MANAGEMENT AND BUDGET** **August 17, 2009**
**PURCHASING OPERATIONS**
**P.O. BOX 30026, LANSING, MI 48909 –**
**or-**
**530 W. ALLEGAN, LANSING, MI 48933**

# CHANGE NOTICE NO. 2 (REVISED)
# TO
# CONTRACT NO. 071B8200082

**(Replaces 071B6200243)**

## between
## THE STATE OF MICHIGAN
## and

| | |
|---|---|
| NAME & ADDRESS OF CONTRACTOR<br>**KUNZ LEIGH AND ASSOCIATES INC.**<br>**28081 Southfield Road**<br>**Lathrup Village, MI 48076-0187**<br>**Email: J.Leigh@kunzleigh.com** | TELEPHONE John Leigh<br>**(248) 559-7910**<br>VENDOR NUMBER / MAIL CODE<br>BUYER / DMB-CA<br>**Joann Klasko** (517) 241-7233 |
| Agency Contract Compliance Inspector: Sara Williams<br>**Michigan Department of Information Technology –Agency Services – Health & Human Services and Information Officer for Department of Community Health** | |
| CONTRACT PERIOD From: **January 1, 2008** To: **March 31, 2010** | |
| TERMS<br>**N/A** | SHIPMENT<br>**N/A** |
| F.O.B.<br>**N/A** | SHIPPED FROM<br>**N/A** |
| MINIMUM DELIVERY REQUIREMENTS **N/A** | |
| MISCELLANEOUS INFORMATION: | |

**NATURE OF CHANGE(S):**

**Effective immediately, this contract is EXTENDED 1 year to March 31, 2010*, and increased by $3,117,600.00. (*Previously change notice showed March 31, 2011.)**

**All other terms, conditions, specifications and pricing remain unchanged.**

**AUTHORITY/REASON(S):**

**Per agency request, and Administrative Board Approval on 8/04/2009**

**INCREASE: $3,117,600.00**

**TOTAL REVISED ESTIMATED CONTRACT VALUE: $7,315,296.00**

Form No. DMB 234 (Rev. 1/96)
AUTHORITY: Act 431 of 1984
COMPLETION: Required
PENALTY: Contract will not be executed unless form is filed

**STATE OF MICHIGAN**
**DEPARTMENT OF MANAGEMENT AND BUDGET** **August 5, 2009**
**PURCHASING OPERATIONS**
**P.O. BOX 30026, LANSING, MI 48909 –**
**or-**
**530 W. ALLEGAN, LANSING, MI 48933**

# CHANGE NOTICE NO. 2
# TO
# CONTRACT NO. 071B8200082

**(Replaces 071B6200243)**

## between
## THE STATE OF MICHIGAN
## and

| | |
|---|---|
| NAME & ADDRESS OF CONTRACTOR<br>**KUNZ LEIGH AND ASSOCIATES INC.**<br>**28081 Southfield Road**<br>**Lathrup Village, MI 48076-0187**<br>**Email: J.Leigh@kunzleigh.com** | TELEPHONE John Leigh<br>**(248) 559-7910**<br>VENDOR NUMBER / MAIL CODE<br>BUYER / DMB-CA<br>**Joann Klasko** (517) 241-7233 |
| Agency Contract Compliance Inspector: Sara Williams<br>**Michigan Department of Information Technology –Agency Services – Health & Human Services and Information Officer for Department of Community Health** | |
| CONTRACT PERIOD From: **January 1, 2008** To: **March 31, 2011** | |
| TERMS<br>**N/A** | SHIPMENT<br>**N/A** |
| F.O.B.<br>**N/A** | SHIPPED FROM<br>**N/A** |
| MINIMUM DELIVERY REQUIREMENTS **N/A** | |
| MISCELLANEOUS INFORMATION: | |

**NATURE OF CHANGE(S):**

**Effective immediately, this contract is EXTENDED 1 year to March 31, 2011, and increased by $3,117,600.00.**

**All other terms, conditions, specifications and pricing remain unchanged.**

**AUTHORITY/REASON(S):**

**Per agency request, and Administrative Board Approval on 8/04/2009**

**INCREASE: $3,117,600.00**

**TOTAL REVISED ESTIMATED CONTRACT VALUE: $7,315,296.00**

Form No. DMB 234 (Rev. 1/96)
AUTHORITY: Act 431 of 1984
COMPLETION: Required
PENALTY: Contract will not be executed unless form is filed

**STATE OF MICHIGAN**
**DEPARTMENT OF MANAGEMENT AND BUDGET** **December 8, 2008**
**PURCHASING OPERATIONS**
**P.O. BOX 30026, LANSING, MI 48909 –**
**or-**
**530 W. ALLEGAN, LANSING, MI 48933**

# CHANGE NOTICE NO. 1
# TO
# CONTRACT NO. 071B8200082

**(Replaces 071B6200243)**

## between
## THE STATE OF MICHIGAN
## and

| | |
|---|---|
| NAME & ADDRESS OF CONTRACTOR<br>**KUNZ LEIGH AND ASSOCIATES INC.**<br>**28081 Southfield Road**<br>**Lathrup Village, MI 48076-0187**<br>**Email: J.Leigh@kunzleigh.com** | TELEPHONE John Leigh<br>**(248) 559-7910**<br>VENDOR NUMBER / MAIL CODE<br>BUYER / DMB-CA<br>**Joann Klasko** (517) 241-7233 |
| Agency Contract Compliance Inspector: Sara Williams<br>**Michigan Department of Information Technology –Agency Services – Health & Human Services and Information Officer for Department of Community Health** | |
| CONTRACT PERIOD From: **January 1, 2008** To: **March 31, 2010** | |
| TERMS<br>**N/A** | SHIPMENT<br>**N/A** |
| F.O.B.<br>**N/A** | SHIPPED FROM<br>**N/A** |
| MINIMUM DELIVERY REQUIREMENTS **N/A** | |
| MISCELLANEOUS INFORMATION: | |

**NATURE OF CHANGE(S):**

**Effective immediately, this contract is EXTENDED 1 year to March 31, 2010, and increased by $2,000,000.00 per the attached statement of work.**

**Overview of Contract Option Exercised (Change Notice 1)**

| | | |
|---|---|---|
| **X** | **Option 1** | **(4/1/2009 – 3/31/2010)** |

**Overview of Remaining Options**

| |
|---|
| **None** |

**All other terms, conditions, specifications and pricing remain unchanged.**

**AUTHORITY/REASON(S):**

**Per agency request, and Administrative Board Approval on 11/18/2008**

**TOTAL REVISED ESTIMATED CONTRACT VALUE: $4,197,696.00**

## Statement of Work

The CHAMPS project has experienced schedule slippage since its inception in December 2006. This slippage is the result:

- Right Sizing of the Project – June 2007
- Change Orders
- Schedule Slippage

The State desires that Kunz, Leigh & Associates continue to provide Project Control Office functions and oversight to the project. This will require that the designated PCO resources be extended and that the contract be extended through 3/31/2010.

The designated key personnel for whom the contractor has submitted and agreed to are:

- PMO Manager – Paul McNally – PM Assurance Services, LLC
- IV/V Project Control (PCO) Manager – Jeff Tate – Jefftate LLC
- Project Change (Release) Manager – Sivakumar Sanyasi – Sanyasi Inc.
- Project Scheduler – Michael Mayes – Kunz Leigh and Associates, Inc.
- Infrastructure Mgr – NA
- Systems and Network Support Mgr - NA
- Data Management (Loading, Conversion, Utilities) – Marty Tompkins – Kunz Leigh and Associates, Inc.
- Sr. Quality Assurance Manager – Charles Veverka – Kunz, Leigh and Associates, Inc.
- Quality Assurance/Test Manager – Jim Kunz – Kunz Leigh and Associates, Inc.
- Quality Assurance and Testing – Lloyd Kintz – Captec

The contractor understands that Key Personnel are critical and agrees that, to maintain the continuity of the project, key personnel will not be removed or reassigned without the State's prior written approval.

PMO Manager

This individual coordinates the activities of the MMIS Replacement Project, CHAMPS, including the Project Control Office, the Department of Community Health, the Department of Information Technology, the Michigan Public Health Institute, and the MMIS Implementation Contractor, CNSI.. In this capacity, the PMO Manager oversees the MMIS Implementation Contractor's and the State's compliance with the State's Project Management Methodology (PMM) and establishes the strategy for monitoring the State's and the MMIS Implementation Contractor's compliance and performance under the MMIS Implementation contract. This individual is primarily responsible for delivery of Project Control Office (PCO) Statement of Work responsibilities, including Contractor Management, Schedule Management, Resource Management, Issue Management, Communication Management, Risk Management, Performance Monitoring, Time Tracking, and Work Approval. The role requires experience in software development, project management, in-depth knowledge of IT systems and architecture, and proven competency in managing large multi-year complex systems integration projects. This individual manages the enterprise view and the interdependencies between projects to achieve business objectives and focuses on interaction at multiple levels and partners. The PMO Manager uses MS Project, MS Excel, MS Word, MS PowerPoint, Remedy and the Tracker Tools or the comparable tools within the Contractor's or Project's alternate tool set. The individual is often consulted to resolve escalated issues, create plans to mitigate risk, and remove roadblocks.

IV/V Project Control Office (PCO) Manager

This individual works under the direction of the PMO Manager and coordinates the activities of the Project Control Office. This individual is responsible for monitoring the performance of the MMIS Implementation contract by the State and the MMIS Implementation Contractor. The PCO Manager will oversee the MMIS Implementation Contractor's and the State's compliance with the State's Project Management Methodology (PMM) and is responsible for establishing the strategy for monitoring the MMIS Implementation Contractor's compliance with and performance of the MMIS Implementation contract. This individual is responsible for the delivery of Project Control Office (PCO) responsibilities – Vendor Management, Schedule Management, Resource Management, Issue Management, Communication Management, Risk Management, Performance Monitoring, Time Tracking, and Work Approval. This person will also coordinate all activities associated with Task 3 Independent Validation & Verification Services across State and the staff of the MMIS Implementation contractor. The role requires experience in software development, project management, in-depth knowledge of IT systems and architecture, and proven competency in guiding multiple simultaneous releases and vendors as part of large system development projects. This individual manages the enterprise view and the interdependencies between projects to achieve business objectives and focuses on interaction at multiple levels and partners. The PCO Manager uses MS Project, MS Excel, MS Word, MS PowerPoint, Remedy and the Tracker Tools or the comparable tools within the vendor's alternate tool set. The individual is often consulted to resolve escalated issues, create plans to mitigate risk, and remove roadblocks.

Project Change (Release) Manager

These individuals manage detailed project plans and schedules for the day-to-day tracking and oversight of project releases using the Project Management Methodology (PMM). These individuals create and use tools to monitor and report on schedule progress, resource utilization, issue resolution/escalation, and process adherence. These individuals also gather and report on vendor performance and compliance metrics. The project release managers are skilled users of MS Project, MS Excel, MS Word, MS PowerPoint, macros, charting, Remedy and the Tracker Tools or the comparable tools within the vendor's alternate tool set, which enable them to monitor and report on releases. These individuals have a software development background and have developed and managed releases on large systems. These individuals are often consulted to resolve issues and to address specific release roadblocks. The PCO Release Managers are responsible for managing the release delivery within specified parameters of cost, time, and quality.

Project Scheduler

These individuals update schedules for day-to-day tracking. These individuals support Release Managers using project management tools, techniques, and methodologies such as MS Project, MS Word, MS Excel, MS PowerPoint, Remedy and Tracker Tools or the comparable tools within the vendor's alternate tool set to assist in the monitoring of individual tasks. A Project Scheduler has a software development background and has developed on large systems. A PCO Release Manager directs the daily activities of the Project Scheduler. The Project Scheduler does many of the administrative tasks needed to monitor and report on the status of a release.

Infrastructure Team Manager

This individual works with the System Architect and team to coordinates the activities of the Infrastructure and is responsible for staffing issues, providing technical direction to various sub-teams (e.g., Data Conversion, Configuration Management, System DBA). The role requires a technical background in RDBMS, SQL, server administration, shell scripting, automation techniques, conversion processes, SEI CMM processes, productivity improvement and enterprise system management. This individual provides direction, solutions, improvements and suggests/designs/improves tools and processes to deliver services to the project teams

dependent on Infrastructure team capabilities. The individual is often consulted to solve technical issues, plan/manage environments, create/maintain overall development processes/standards, and provide the overall vision and guiding principles for the team. This individual participates directly at the project management level, providing proposal/plan responses, estimates, assumptions and task definitions. The team manager has overall responsibility for the management of the Production, Development, Training, Testing, etc. environments and is involved directly in their configuration, capacity planning, maintenance, etc.

Systems and Network Support

This role provides troubleshooting expertise related to the connectivity, servers and user desktop environment of the MMIS application(s). Broad experience in network configurations, servers, routers, firewalls, web load balancers, network capacity planning, etc. is required. Additional skills required are knowledge of Windows software products, Internet Explorer, Development environment, and relational databases. This team also provides desktop support for the developers on the project and is tightly connected to various DCH/DIT support groups (Desktop, DCH Network, DCO, Model Office, Technical Support, Technical Services, etc.). Other responsibilities include administration of file servers used to support development efforts, assistance with build scheduling, backup of servers, and general assistance with application infrastructure issues. Members of this team will be dispatched to work "hot" issues requiring on-site troubleshooting and/or coordination of support efforts.

Data Management (Loading, Conversion, Utilities)

This role works very closely with the Infrastructure team manager. The focus of this role's activities is on the co-ordination, loading and configuration management of seed (control) data (data used by the application to control functionality, drop-downs, system values, etc.), and conversion of legacy data into the new MMIS system. Members of this team will have experience with SQL, RDBMS, DDL and the MMIS seed data/system tables. Some MMIS application knowledge will be needed to reconcile value problems, especially with user/security setup in the application security tables. This team is an integral part of database creation/refreshes and is the key source for populating the various areas used by Testing, Development, Training, etc. Data reduction/extraction programs are created, maintained and executed by this team to produce reduced databases for testing and/or demonstration purposes not requiring full Production data. This team will also have a key role in Implementation, especially data conversion activities that result in new system values merging with current Production values. Ability to multi-task and manage/coordinate many simultaneous environments for multiple concurrent development and maintenance releases is critical.

Sr. Quality Assurance Manager

This individual may perform a number of IV&V services. They should have detailed knowledge of Medicaid, Medicare, and commercial insurance operations, payment systems, and development of Medicaid policy and procedure. Experience with large-scale data conversion projects with multiple system interfaces is a plus. Experience in documenting business procedures, test plans, issues, change requests, and requirements may be required. This individual will oversee and direct the development of user acceptance testing and recommendations for business procedure changes during the implementation. This person will also assist in resolving defects in the new system during implementation.

Quality Assurance / Test Manager

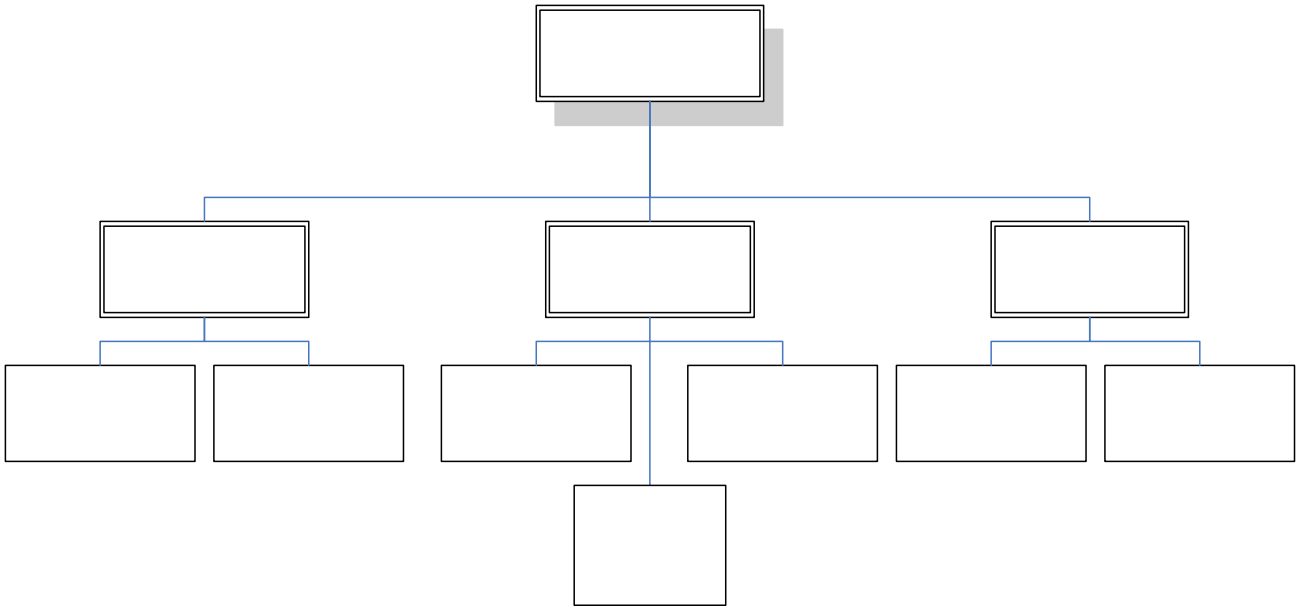
This individual ensures the validity and accuracy of the deliverables produced by the MMIS Development and Implementation Vendor. This person also verifies the accuracy and completeness of test data and scenarios then attests to the accuracy of test results, ensuring the functional and technical requirements are achieved. Experience with MMIS system implementations, Medicaid policy and procedures, including claims processing and payment

processing, as well as general "Medicaid industry" knowledge, are vitally important for this role. In addition knowledge of Medicare payment methodology and processing rules as well as commercial best practices and knowledge of HIPAA are essential. This individual should also have experience in disaster recovery testing.

Quality Assurance and Testing

This individual may perform a number of IV&V services. They should have detailed knowledge of Medicaid, Medicare, and commercial insurance operations, payment systems, and development of Medicaid policy and procedure. Experience with large scale data conversion projects with multiple system interfaces is a plus. Experience in documenting business procedures, test plans, issues, change requests, and requirements may be required. This individual may perform systems analysis on the MMIS system to be transferred to Michigan, including recommendations for business procedure changes during the implementation. This person may also assist in resolving defects in the new system during implementation.

The following is a diagram of the expected project organization, including State, IV/V Contractor and MMIS Implementation Contractor resources:



In addition the State has requested that the PCO provide optional resources to the project where the State does not have adequate resources or skills to meet the project needs. Key activities for initial focus includes – Automated regression Tool testing expertise (Remedy) and CHAMPS interface support.
The following positions are identified as **optional resources under the terms of this AGREEMENT:**

Siebel Architect
This person will have responsibility for coordinating final requirements for the customer call center, and working with the implementation Contractor to determine the best way to configure and implement the software associated with the call center. This individual must have extensive knowledge of customer call center processes, Siebel software, design of Siebel call centers currently in production, and requirements gathering for development of production call centers.

FileNet/Document Management Architect
This person will have responsibility for coordinating final requirements for the MMIS document management system, and working with the implementation Contractor to determine the best way to configure and implement the software associated with document management. This individual must have extensive knowledge of document management processes, FileNet software, design of

FileNet document management systems currently in production, and requirements gathering for development of production document management systems.

Oracle Financials Architect

This person will have responsibility for coordinating final requirements for the Oracle Financials implementation within MMIS, and working with the implementation Contractor to determine the best way to configure and implement the Oracle Financials software. This individual must have extensive knowledge of business financial systems, Oracle Financials software, design of Oracle Financial application systems currently in production, and requirements gathering for development of financial and payment systems.

Work Flow Coordinator

This individual coordinates the activities of the Work Approval and Release Planning process. The role requires participation in three groups – Triage (emergency Production problems), Ticket Assessment (non-emergency Production problems), and Release Planning. This individual is detail oriented, follows set criteria, but must be able to lead the review of problem tickets as the facilitator of the Ticket Assessment Group. The Work Flow Coordinator communicates with and creates a working relationship with all project members from end users to the DIT Project Manager. This individual uses MS Project, MS Word, MS Excel, MS PowerPoint, Remedy, and Tracker Tools or the comparable tools within the Contractor's alternate tool set to assess, route, and monitor throughput of the tickets (maintenance requests). The role requires fundamental project management knowledge and experience. This individual may seek guidance from more experienced project managers. The Work Flow Coordinator is the "Gatekeeper" for all tickets and is responsible for packaging them for review.

MMIS Configuration Management

Members of the MMIS Configuration Management team are responsible for administering the PVCS Data Repository, defining collections and branches of artefacts as working and production releases, and enforcing configuration management processes on the MMIS project for new development and maintenance activities. The team members create, modify and improve automated build processes, configuration management tracking utilities/applications, configuration management reporting utilities/applications and any other automated productivity tools used for building and/or tracking the configurable items within the MMIS application(s). A subset of the team also assumes responsibility for supporting and modifying an "IT Remedy" installation, which is customised to automate, facilitate and enforce the development process governing change control, work flow and promotion to production procedures. Some team members are also leveraged to support various other project tracking tools and are often requested to provide production ticket information/reports and other program management data to DCH/MMIS leadership. Basic knowledge of the java and database application components is required and some troubleshooting is provided to project developers regarding compilation errors, etc. Other skills include PVCS, Data Repository, SQL, scripting, Active Server Pages, HTML, DOS Batch scripting.

Application Architecture

Members of this team are responsible for reviewing problem areas of the application, improving adherence to good coding practice and ensuring that the application components produced by developers will be robust enough for Production to operate smoothly and without excessive maintenance effort. Performance tuning (efficient code, index recommendations, tuning recommendations) is a key responsibility. Other areas of concern addressed by the team include: commit/restart capability of batch processes, modularity/maintainability of design and code, adherence to standards, and error handling. This team is consulted heavily by developers. SQL, relational database design, Java, JSP, J2EE architecture and implementation, JDBC, and web server technologies, are required skills, however, team members are most valued for their ability to improve system performance and reliability through robust, efficient coding techniques and mentoring.

Environment Planning and Preparation

This role is intended to be the focal point for communications between the infrastructure team and other project teams requiring their services. This individual must be able to understand the impact

of co-ordinating multiple development and maintenance database regions/application versions simultaneously. Further, this individual must co-ordinate planning for region creations, refreshes, data loads, etc. as required to meet project deadlines and ever-changing conditions/requirements. This individual will work directly with Development, Testing, Training,

Data Readiness and other project groups to provide and manage the available databases and applications required to support all aspects of the MMIS initiative. Multi-tasking capabilities, configuration management experience, project management experience, and an understanding of large-scale development efforts are required. This individual must possess great attention to detail and be able to determine when planned activities conflict or other repercussions can cause difficulty or require contingency planning.

System DBA

This team is responsible for the database instances, database system configuration and database maintenance for all Production, Development, Testing, and Training environments. Tasks include creation and configuration of database instances, disk space management, capacity planning, business resumption/disaster recovery, application of tuning improvements, efficient management of data/index files, server administration, shell scripting, system/database security and general system operations. This team also configures and administers the application server, load balancers, and web server components of the online application. Individuals on this team will be sought out for expertise, consultation and solutions by all project development groups. Required skill sets include server administration; shell scripting, Java, SQL, and DBA expertise, including advanced database management and configuration knowledge.

Data Modelling

This team is responsible for analysis through implementation of database change requests received from developers. The team is responsible for the tight control and integrity of the MMIS data model and all applicable standards and conventions. The team must be able to create the application database from the model and audit any instances for conformity. Expertise and experience in tuning and efficient database design is also a necessity and a main responsibility. Team members also participate greatly in seed data activities and have a broad understanding of the data values key to the application.

Batch Support/Scheduling

This team will provide primary support for nightly execution of Production Batch. Members of this team will also provide system expertise and have advanced knowledge of the batch programs and system interfaces. Team members will apply expertise (as first line response) to resolve batch failures requiring data correction or other situations requiring action to restart/resume processing (such as tactical index creation). Knowledge of the application, its historical beginnings and usage in the local offices is expected, in addition to expertise as a DBA. The team also manages the schedulers and has expertise in the tools. The team will also provide valuable input into batch performance and tuning, as well as provide Development and Maintenance teams with timing information and recommendations. The team assists and participates in performance improvement efforts and new release planning to advice on batch topics and the batch window.

Remedy Processing, Documentation, Administrative Support, Impact Analysis Tool

This role is intended to provide a single point of contact for Remedy tickets assigned to the project team. Also, when specific documentation (such as procedures, standards, audit responses, etc.) are required, team members gather, create or coordinate that documentation. General administrative support is also provided and encompasses the maintenance of on-call schedules and other team communication/coordination. The team also assumes responsibility to develop and maintain the in-house impact analysis tool (SQL, Java, and general MMIS application knowledge required).

Web Tools Support

This role is intended to provide the MMIS governance team with tool support (specifically, PCO Web tools) as well as the integration of infrastructure tools, applications and utilities with the framework of the MMIS suite of tools. A DIT standard set of project control tools and processes will be used to monitor and control all MMIS work. As a result, this standard set of tools will be

established for the MMIS environment. This team will support this set of tools and provide ongoing direction regarding improvements to the tools. Knowledge of servers, RDBMS, Crystal Reports, Cold Fusion, IIS, Visual Basic, Visual InterDev, Active Server Page, HTML and general web concepts is required.
If the contractor is proposing an alternate set of tools, the contractor must identify the required skills for this position using the alternate set of tools and how the proposed web tools support team members meet these requirements.

CHAMPS Interface Support
This role is responsible for defining and developing interfaces to CHAMPS and or the Data Warehouse for changes resulting from the new CHAMPS system. The DIT standards for project development and implementation will be followed by the team.

## Budget

The amended budget for the project is $4,141,775.00 or an increase of $2,000,000.00. The following tables outlines the rates and budget for Mandatory and Optional positions.

**Total Prices for Mandatory Key Personnel Resources**:

All rates stated below are all inclusive and fixed for the duration of the contract. The State reserves the right to adjust the hours indicated with thirty (30) days written notice to the contractor.

| Mandatory Key Resources | Current Months This Position | Monthly Billing Rate | Current Extended Price | Revised Months | Revised Extended Price | Additional Funding |
|---|---|---|---|---|---|---|
| PMO Manager | 15 | $30,600.00 | $459,000.00 | 21 | $642,600.00 | $183,600.00 |
| IV/V Project Control (PCO) Manager | 14 | $28,050.00 | $392,700.00 | 19 | $532,950.00 | $140,250.00 |
| Project Change (Release) Manager | 12.25 | $20,400.00 | $249,900.00 | 18 | $367,200.00 | $117,300.00 |
| Project Schedulers* | 11.5 | $17,850.00 | $205,275.00 | 15 | $267,750.00 | $62,475.00 |
| Infrastructure Team Manager | 0 | $24,650.00 | $0 | 0 | $0 | $0 |
| Systems and Network Support | 0 | $8,797.50 | $0 | 0 | $0 | $0 |
| Data Management | 13.5 | $17,850.00 | $240,975.00 | 18 | $321,300.00 | $80,325.00 |
| Sr. Quality Assurance Manager | 13 | $22,100.00 | $287,300.00 | 18 | $397,800.00 | $110,500.00 |
| Quality Assurance /Test Manager | 10.5 | $20,400.00 | $214,200.00 | 15 | $306,000.00 | $91,800.00 |
| Quality Assurance and Testing | 7.5 | $15,300.00 | $114,750.00 | 13 | $198,900.00 | $84,150.00 |
| **Total** | | | **$2,164,100.00** | | **$3,034,500.00** | **$870,400.00** |
| **Infrastructure Team Manager** | **-.5** | $24,650.00 | **-$ 12,325.00** | **-.5** | **-$ 12,325.00** | **0** |
| **Total Price Mandatory Key Resources:** | | | **$2,151,775.00** | | **$3,022,175.00** | **$870,400.00** |

**Optional Resources: Hourly Rates for each Staffing category to be used as Fixed Rates for Responses to Statements of Work (Drawn from estimated 10,000 hours per year)**

| **Optional Resources** Staffing Category | Fixed Hourly Rate (not to exceed) |
|---|---|
| Siebel Architect | $145.00 |
| FileNet/Document Management Architect | $145.00 |
| Oracle Financials Architect | $180.00 |
| Work Flow Coordinator | $130.00 |

| | |
|---|---|
| Configuration Management | $100.00 |
| Application Architecture | $145.00 |
| Environment Planning and Preparation | $130.00 |
| System DBA | $145.00 |
| Data Modeling | $145.00 |
| Batch Support/Scheduling | $100.00 |
| Remedy Processing, Documentation | $100.00 |
| Web Tools Support | $130.00 |
| CHAMPS Interface Support | $100.00 |
| | |
| **Total Maximum to be paid for Optional Hours during life of Contract:** | **$1,109,600.00** |

**Expenses:**
**Expenses are for travel related to PCO activities outside of the Lansing area. These would include travel to CNSI offices at the request of the State. Expenses are budgeted at $20,000/**

Form No. DMB 234 (Rev. 1/96)
AUTHORITY: Act 431 of 1984
COMPLETION: Required
PENALTY: Contract will not be executed unless form is filed

**STATE OF MICHIGAN**
**DEPARTMENT OF MANAGEMENT AND BUDGET** **January 1, 2008**
**PURCHASING OPERATIONS**
**P.O. BOX 30026, LANSING, MI 48909 –**
**or-**
**530 W. ALLEGAN, LANSING, MI 48933**

# NOTICE
# OF
# CONTRACT NO. 071B8200082

**(Replaces 071B6200243)**

**between**
**THE STATE OF MICHIGAN**
**and**

| | |
|---|---|
| NAME & ADDRESS OF CONTRACTOR<br>KUNZ LEIGH AND ASSOCIATES INC.<br>28081 Southfield Road<br>Lathrup Village, MI 48076-0187<br>J.Leigh@kunzleigh.com | TELEPHONE John Leigh<br>**(248) 559-7910**<br>VENDOR NUMBER / MAIL CODE<br>BUYER / DMB-CA<br>**Joann Klasko** (517) 241-7233 |
| Agency Contract Compliance Inspector: Sara Williams<br>**Michigan Department of Information Technology –Agency Services – Health & Human Services and Information Officer for Department of Community Health** | |
| CONTRACT PERIOD From: **January 1, 2008** To: **March 31, 2009** | |
| TERMS<br>**N/A** | SHIPMENT<br>**N/A** |
| F.O.B.<br>**N/A** | SHIPPED FROM<br>**N/A** |
| MINIMUM DELIVERY REQUIREMENTS **N/A** | |
| MISCELLANEOUS INFORMATION: | |

**Total Contract Value: $2,197,696.00**

**This contract replaces contract 071B6200243 with TIER Technologies, Inc. Kunz, Leigh and Associates, Inc. were a subcontractor on the original contract and will be taking over the duties of the contract.**

Form No. DMB 234 (Rev. 1/96)
AUTHORITY: Act 431 of 1984
COMPLETION: Required
PENALTY: Contract will not be executed unless form is filed

# STATE OF MICHIGAN
# DEPARTMENT OF MANAGEMENT AND BUDGET
# PURCHASING OPERATIONS
# P.O. BOX 30026, LANSING, MI 48909 - or- 530 W. ALLEGAN, LANSING, MI 48933

## CONTRACT NO. 071B8200082

**between**

**THE STATE OF MICHIGAN**

**and**

| | |
|---|---|
| NAME & ADDRESS OF CONTRACTOR<br>**KUNZ LEIGH AND ASSOCIATES, INC.**<br>**28081 Southfield Road**<br>**Lathrup Village, MI 48076-0187** | TELEPHONE<br>**(248) 559-7910** |
| | VENDOR NUMBER / MAIL CODE |
| | BUYER / DMB-CA<br>**Joann Klasko (517)241-7233** |
| Agency Contract Compliance Inspector: Sara Williams | |
| CONTRACT PERIOD From: **January 1, 2008** | To: **March 31, 2009** |
| TERMS<br>**N/A** | SHIPMENT<br>**N/A** |
| F.O.B.<br>**N/A** | SHIPPED FROM<br>**N/A** |
| MINIMUM DELIVERY REQUIREMENTS **N/A** | |

MISCELLANEOUS INFORMATION:

THIS IS NOT AN ORDER: This Contract Agreement is made on the basis of the State's inquiry bearing the reference # 071I6200037 and the vendor's proposal and quotation dated January 06, 2006, **to provide the Michigan Department of Information Technology (DIT) with Independent Verification and Validation (IV&V) services, Project Control Office services, and Technical Infrastructure Control services**, for the Michigan Department of Community Health's replacement of its Medicaid Management Information System (MMIS).

The terms and conditions of this Contract are stated within this AGREEMENT. In the event of any conflicts between the specifications, terms and conditions indicated by the State and those indicated by the Contractor, those of the State take precedence.

**For the life of this Agreement, maximum total to be paid to Contractor shall not exceed: $.00**

| **FOR THE CONTRACTOR:** | **FOR THE STATE:** |
|---|---|
| Authorized Agent Signature Date | Signature Date |
| **John K. Leigh, Partner Kunz Leigh and Associates, Inc** | **Elise A. Lancaster, Director Purchasing Operations** |
| Vendor Signatory Name and Title | Authorized State Representative Name and Title |
| **TIER TECHNOLOGIES, INC.** | **MICHIGAN DEPARTMENT MANAGEMENT & BUDGET** |

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# Article 1 – Statement of Work (SOW)

## 1.0 Project Identification

### 1.001 PROJECT REQUEST

The purpose of this contract is to provide services to the Michigan Department of Information Technology (DIT) for the "Independent Validation & Verification," "Technical Infrastructure Control," and a "Project Control Office" for the Department of Community Health's (DCH) Medicaid Management Information System (MMIS) replacement project, over an approximately 36 month (three year) contract period starting within five (5) business days from the date this AGREEMENT is executed (in approximately April of 2006). See § 2.004 of this AGREEMENT, *Contract Term*, for more information.

This replacement project requires minimal slippage of schedule dates and aggressive scope control. In order to meet the needed timeline and minimize risk to the State, project control must be established that will closely monitor progress and allow for quick identification and resolution of issues during the replacement's implementation. This Contractor will assist the State in project monitoring, control and management activities - from a technical perspective as well as a typical project management (i.e., scope, schedule, risk management, etc.) perspective - for the three year duration of the MMIS replacement implementation project.

Under the direction of the State, a Program Management Office (PMO) has been established for the MMIS project. The State PMO is responsible for the governance of this project, including development of the overall strategy and plan to meet the goals and objectives outlined in the charter, gaining stakeholder agreement to the plan, establishing a budget, and obtaining funding for the project. As part of the PMO, a Project Control Office (PCO) is established through this AGREEMENT.

This PCO AGREEMENT is a critical component of the overall MMIS Program Management structure and shall provide the State with detailed project control and oversight, which shall be independent of the application development and the implementation Contractor's activities. This AGREEMENT will serve as a quality assurance mechanism for the State of Michigan.

As is federally mandated, this IV&V and PCO Contractor will also perform Independent Validation & Verification (IV&V) and Technical Infrastructure Control (TIC) activities for this MMIS replacement project. These activities will include systems analysis, requirements validation, business process reengineering, and Quality Assurance Testing.

### 1.002 BACKGROUND

The State is undertaking a major project to replace the existing Medicaid Management Information System. The current system is a large mainframe system developed in the late 1970's for managing the claims processing activities for the State's Medicaid program. The program currently serves over 1.4 million participants with over $5.6 billion dollars in claims paid each year. The current system processes almost 35.5 million claims and 22 million encounters each year.

The State has contracted for an outside Contractor to transfer, modify and implement a MMIS replacement system (See contract 071B6200168 for more information). The implementation will occur over a three-year period with the following objectives to be accomplished:

This project will be developed and implemented in three major phases: It should be noted that the DDI Phase will be broken down into a staged implementation so as to provide early implementation of key components of the system

1. **Design, Development and Implementation** of a new system (DDI), project management and support services, including provider and business staff training, technical knowledge transfer, cultural and business process change management, risk mitigation, certification support, disaster recover process development, and system documentation (approximately 21 – 27 months);

2. **Turnover, Transition, Transfer** of system operations, and **CMS Certification** (approximately 12 – 15 months);

3. **Maintenance** services (approximately 18 – 24 months, ending 09/30/2011), with an option to purchase an additional two years of maintenance services. Note: The PCO & IV&V Contractor will not oversee this phase of the Implementation Project.

This PCO/ IV-V& Contractor, the Project Management Control Team for the implementation vendor, and the State team will function with the MMIS Implementation Contractor over approximately a 36-month contract period with key staff primarily available beginning in Phase 1 (DDI) of the MMIS replacement project life.

## 1.1 Scope of Work and Deliverables

### 1.101 IN SCOPE

The following table shows the primary services to be provided by the PCO and IV&V:

| MMIS PROJECT CONTROL OFFICE and IV&V | | |
|---|---|---|
| **PROJECT MANAGEMENT** | **TECHNICAL CONTROL** | **IV&V SERVICES** |
| Develop and manage project schedules and plans that are logic and resource driven. | Provide oversight for system architecture. | Review and analyze the MMIS system being transferred to Michigan. |
| Maintain project schedules to manage releases and scope. | Oversee the execution of file transfers to/from external entities (DHS, Treasury, Federal Government, etc). | Ensure validity and accuracy of test results. |
| Manage resource pool. | Support application and desktop connectivity. | Perform issue write-up and resolution. |
| Track time devoted to tasks and provide historical data to support the estimates for future work (releases). | Support development, testing, and project tracking tools. | Perform requirements validation, ensuring the business requirements for the project align with Michigan's goals and objectives. |
| Maintain issue tracking and resolution processes. | Create and support the processes related to configuration management. | Document recommendations and findings; present to executive leadership. |
| Maintain change control process, including facilitation of Statement of Work development. | Interface with DIT Infrastructure, Field Services, and Agency Services divisions. | Document requests for change (i.e., change controls); perform and document impact assessments on the proposed changes. |
| Develop and support a formal Work Approval Process (WAP). | Facilitate the resolution of network, operating system, file transfer, and database problems. | Define and implement business process change related to the new MMIS system. |
| Monitor performance through the use of project scorecards and other performance metrics. | | Create test data |
| Interface with other State agencies and Contractors as necessary. | | Ensure completeness of test data sets. |

| MMIS PROJECT CONTROL OFFICE and IV&V | | |
|---|---|---|
| **PROJECT MANAGEMENT** | **TECHNICAL CONTROL** | **IV&V SERVICES** |
| Facilitate communication across stakeholders, including Contractors. | | Assist State in evaluation of test results |
| Establish meeting schedules and agendas; facilitate release and status meetings. | | |

In addition to the services listed above, the State anticipates unexpected events will require resource hours outside the scope of tasks covered by the original Statement of Work for this Contract. Examples of such unanticipated events are emergency application releases, introduction of new technology to the MMIS architecture, or a change in the State infrastructure. The State estimates that up to 10,000 hours per year will be needed to address unanticipated events. The State will utilize Statements of Work with the Contractor to authorize hours to be drawn from this pool. Note that the annual 10,000 hours is an estimate only and that the State is not obligated to purchase all 10,000 hours in a given year or throughout the duration of the contract.

The State ultimately intends to incorporate all PCO Technical Control tasks within the DIT Infrastructure Services division. The timeframe for such a transfer shall be during the transition phase of this project. The State reserves the right to transfer some or all PCO Technical Control tasks to State employees, as it deems appropriate.

**A. Key Objectives**

Key objectives to be accomplished with the MMIS IV/V and PCO and this procurement include:

1. Independent Validation & Verification (IV&V) Services – ensuring the implementation of the new MMIS system is effective for the end users of the system, and meets the overall goals and objectives of the Michigan Department of Community Health and the State of Michigan.

2. Project Management Control

    a. Scope Control/Management – ability to package units of work into meaningful implementations (releases) of value to the stakeholders, and the ability to effectively evaluate, manage, and control changes to those planned releases as the State and/or application development Contractor propose changes to the agreed upon plans.

    b. Schedule Control/Management – planning and monitoring of application development Contractor tasks and State tasks, identifying problems as early as possible so that corrective plans can be put in place quickly to keep the project on track.

3 Technical Infrastructure Control

    a. Environment, database, and application code control to ensure the work promised – and only that work, and assure that delivered functions of the system actually perform as required.

    b. Oversee installation and stand up of hardware in all state Hosting centers, and other implementation Contractor hosting locations.

## 1.102 OUT OF SCOPE

- All IV/V and PCO Contractor activities will be limited to the replacement MMIS project. Issues related to the current MMIS system are not part considered of this project.
- PCO activities for other software implementations are considered outside the scope of this project.
- Delivery of any business requirements, strategies or direction will be the responsibility of the MMIS Implementation Contractor.
- Any hardware/software solutions or implementations will be the responsibility of the implementation Contractor and/or the State of Michigan.
- Ultimate acceptance/satisfaction of the end customer that the system meets their needs is the responsibility of the implementation Contractor.
- Oversight of the Maintenance portion of the MMIS Implementation Contract is out of Scope for the PCO/IV&V Contractor.

## 1.103 TECHNICAL ENVIRONMENT

The Contractor will use a DIT standard set of project control tools and processes to monitor and control all MMIS work. The following provides a technical overview of the planned MMIS-specific environment in which these tools will run.

**A. Project Control Office software architecture**:

- Microsoft Windows 2003 server
- Microsoft SQL Server 2000
- ColdFusion 6.x
- Crystal Reports 10.x
- Microsoft Web Services
- Oracle 9i (to act as the Remedy repository)
- Remedy database (used to assist in the automation of the build steps)
- PVCS for version control
- Apache 2.x with Tomcat 5.x to support Java Server Pages

**B. Browser requirements:**

Project Office website is available to users with Internet Explorer 6.0 or higher. The Toolset uses JavaScript to perform many tasks.

**C. Security:**

Security for the PCO Tools is delegated to the use of session based “Cookies”.

**D. Infrastructure Setup**

1. **PCO Web Server:**
   - Microsoft Windows 2003
   - Microsoft Internet Information Services
   - SQL Server 2000

   This server is where the PCO Web Tools reside.

2. Request System Server:
   - Unix Server
   - Java Server Pages with Apache and Tomcat
   - Oracle Database

This Unix server holds the Infrastructure Request System (IRS). It also stores the "Build" database. This server also contains the Build Tracker system which contains information about builds that were conducted by the "Build" application. This server contains the Migration tool that lets the development team move existing code from a previous configuration to an emerging configuration. This functions as long as the code does not presently exist in the emerging configuration. It moves code between branches and versions to make sure code is kept consistent with future releases. Finally, ToolDb database is located in the Configuration Management (CM) server. It is an Oracle database that the Infrastructure Team uses to house miscellaneous applications.

3. Configuration Management (CM) Servers (2):
   - Unix Servers
   - Oracle
   - Java
   - Scripts – to execute scheduled builds
   - Java Server Pages
   - Tomcat Java Application Server

   These two servers host the application which drives the builds and reads the schedule in the CM server to produce a build. The application accesses the project database in the CM server for schedule lookup and if appropriate, executes stored procedures for configuration creation for the builds. All configurations produced as a result of the build are stored in CM repository. This application also interacts with the Remedy server for ticket based builds.

### E. PCO Web Tools

| Tool | Purpose |
|---|---|
| Build Tracker | This tool is closely associated with the configuration management processes. Build Tracker enables the parameterized generation and scheduling of build scripts to eliminate errors and enhance flexibility. Furthermore, this tool includes post-build information and auditing capabilities. Build Tracker is an extension and integration of the configuration management framework, positioning the PCO Technical Control team to respond to ever-changing conditions with precise, predictable results. Access to this application is password-secured. |
| Configuration Tracker | This tool was a precursor to Build Tracker. The initial purpose of Configuration Tracker was to capture post-build reports automatically and parse the results into a manageable form for reporting, configuration item version management, and environment comparisons. Configuration Tracker is a critical tool for providing configuration management information to development, testing, and training personnel. Access to this application is password-secured. |
| Continuous Improvement Requests (CIRs) Tracker | This tool furnishes a mechanism for acquiring input from users of the PCO Web site. The improvement recommendations generated by this tool will continue to shape and improve the services provided through the PCO Web site. Access to this application is password-secured. |
| Issue Tracker | Issue Tracker furnishes mechanisms for entering, tracking, and reporting project issues, change controls, and risks. This tool supports the creation of automatic e-mail notifications to apprise a project team about all events in the life cycle of an issue, risk, or change control. Access to this application is password-secured. |
| Infrastructure Request System | This tool is the main conduit between the development, testing and training teams and the PCO Technical Control team. This system provides request entry, assignment, status tracking, and automated e-mail notification features to propagate communication about events in each technical environment. The environment preparation and planning team uses this system constantly to generate many useful reports about the technical environments and to coordinate activities such as database refreshes, application build requests, batch execution requests, and ID and password access management. Access to this application is password-secured, and group ownership constraints are in place to make sure that only authorized requesters and gatekeepers can initiate activities in the controlled technical environments. |

| Tool | Purpose |
|---|---|
| Load Tracker | Load Tracker displays the volume of users hitting each of the servers that support the production application, thereby enabling load-balancing management. Other Load Tracker reports that document server performance, such as network disconnects, disseminate near-real-time information about the status of the application environment. Access to this application is password-secured. |
| Project Tracker | Project Tracker is the repository of project scorecard (status) information. Milestones and associated information such as baseline date, anticipated completion date, and status are updated and reported in this tool, Access to this application is password-secured. |
| Report Tracker | Report Tracker provides access to weekly performance metrics, including basic task completion counts by project, by deliverable, and by life-cycle phase. Report Tracker also affords access to weekly-earned value reporting. This information is broken down by project/sub-project, by deliverable, and by phase. Access to this application is password-secured. |
| Test Tracker | Test Tracker is the repository for the test scripts executed during the system and user acceptance test cycles. Test Tracker offers the capability to track test script progress and to identify areas with high concentrations of defects. Access to this application is password-secured. |
| Time Tracker | Time Tracker is driven by the Microsoft Project schedules maintained by the Schedule Control team. Using this tool, each staff member can view scheduled assignments, allocate effort applied, report completion, and estimate remaining work. Time Tracker includes a number of management reports that display effort applied and resource workload, broken down by staff member and by task. Access to this application is password-secured. |
| Ticket Tracker | Ticket Tracker enables project personnel to execute predefined Remedy reports. Many of these Remedy reports were designed to satisfy the needs of the Production Support “Triage team”, but additional reports can be incorporated as new needs are identified. |

## 1.104 WORK AND DELIVERABLE

Contractor will provide staff with a solid understanding of project management, systems development/integration methodology, technology, and quality management. The Contractors staff will also have a deep understanding of the technologies at the heart of the MMIS Replacement Project: Java, J2EE, imaging, call center software, and web portal development. They will have experience facilitating the implementation of Project Management and Project Control Offices in State IT and agency organizations nationwide, and have also providing services in the establishment of Portfolio and Project Portfolio Management and IT governance models.

Contractor will use a process-centric approach to ensure every thing about the project is visible to the project management, the project team, and all other stakeholders. See Figure 4-7 illustrating the Contractor’s focus on maintaining project visibility.


**Visibility thru Process-Centric Project Management**

Contractor's project management methodology shall be based on the PMBOK and ISO 9001-2000 Quality System, and the Quality Assurance Institute (QAI) standards. The project management framework establishes foundation from which the Contractor's rigorous methodology will be tailored to conform to the State PMM standards.

Five key elements of the Contractor's methodology will include:

Emphasis on sound Project Planning with the development and management of the Project Management Plan (PMP) and comprehensive Project Schedules, along with the execution and reporting against the approved and base-lined plans.

Effective resource management and staff transition practices, which are assessed in conjunction with the DIT Project Manager, MMIS management, and the system Contractor, ensure that the right people are and will be available, at the right place, at the right time, with the right skills and also promote timely execution of the project plans and facilitate effective approaches to knowledge transfer.

Time sensitive and accurate issue management methods and tools to promote active tracking of issues, proactive reporting, and time escalation to reduce potential risks to the project.

Rigorous risk management practices, that promote a proactive approach to risk identification, analysis, risk response, risk control, and risk reporting. An important element of this approach is to instill the understanding that risk management is the responsibility of all project stakeholders, and that the existence of risk is a normal feature of any complex project and is not a negative reflection on the project or personnel. Getting in front of risks and being diligent in their monitoring will be critical components to the success of this project.

Timely reporting in a manner that is aligned with the needs of the various stakeholder groups and at the appropriate level of detail to provide the needed information, in a form that is sensitive to their time constraints and responsibilities to the organization, their members, and the State of Michigan. These reports will incorporate sound metrics management that provide relevant data to provide a clear picture of the progress of

the project against stated objectives and plans, and a solid understanding of any issues or risks facing the project.

**Approach to Providing Project Control Services:**

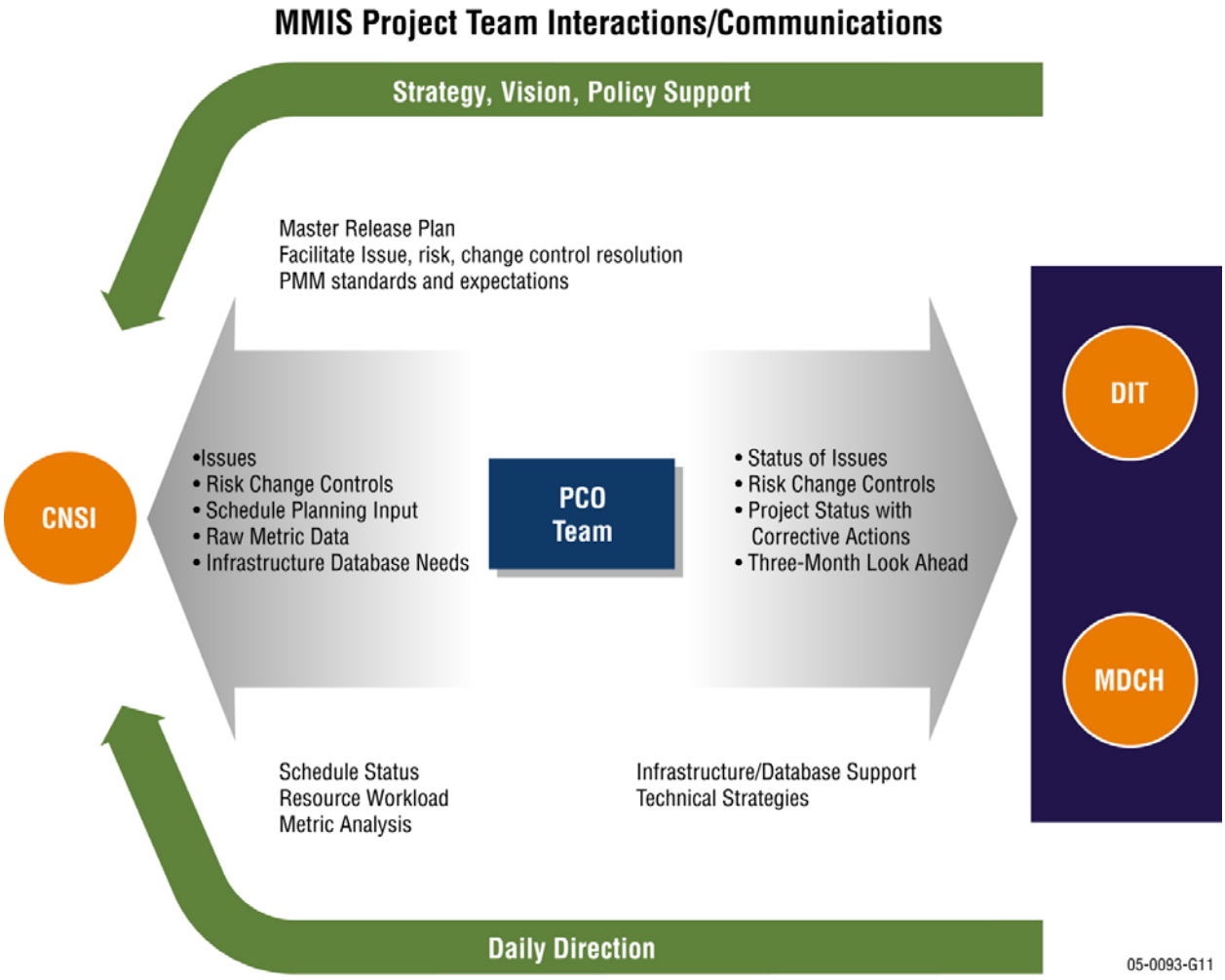
The following two sections describe the Contractor's approach, methods, and key activities that will be performed during the two major phases of the project: initiation and ongoing project management.

Initiation Phase (30 Day Plan)

The project initiation phase is crucial to the success of any project especially one of the size and complexity of the new MMIS system replacement. The scope of the project, including the transfer and customization of an MMIS system along with the development of a new web portal and customer relationship management system, coupled with the aggressive implementation objectives further dictate the need for the team to work together. The project needs to have clear objectives, well-defined scope, well-understood roles and responsibilities, a standard set of operating procedures, controls and reporting, effective quality assurance criteria and processes, a credible plan to achieve those objectives, and an effective communications plan to keep project team members and stakeholders informed about the project. During the first 30 days of the IV&V and PCO engagement, the Contractor's IV&V and PCO team will focus on bringing the MMIS Replacement Project management infrastructure and baseline methods and plans together, document them in a PMP, gain the agreement of the Executive Steering Committee, and publish them for everyone to see and follow. During this period, the Contractor's team will work with DCH, DIT, and the MMIS Implementation Contractor to put in place these elements for success. Activities to be performed include those listed and discussed below.

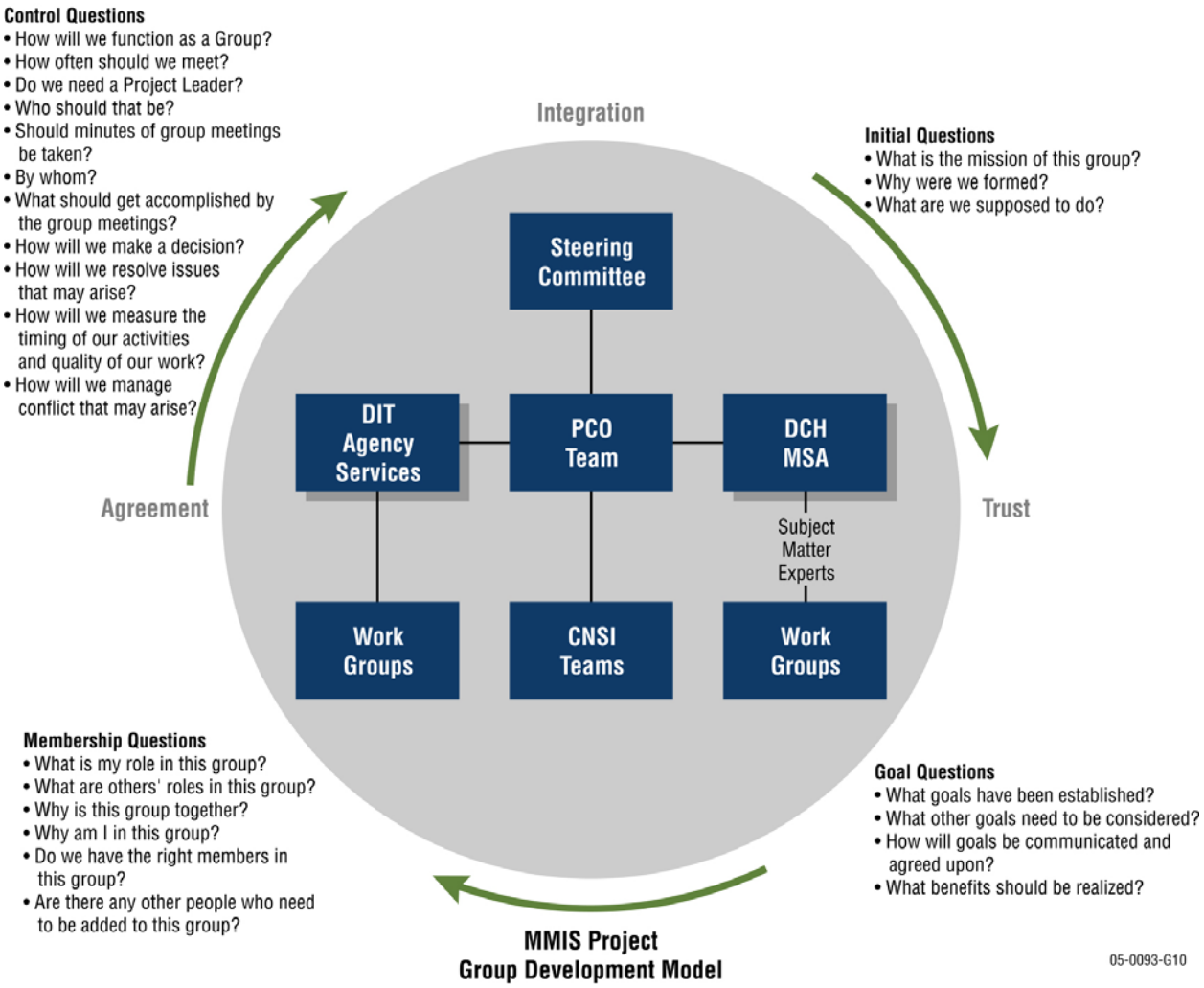
**Establish IV&V and PCO Team**

Figure 4-8 depicts the IV&V PCO team structure, with representatives from each of the key stakeholders in the MMIS project (PCO Contractor, THE MMIS IMPLEMENTATION CONTRACTOR, DCH and DIT). The PCO team will serve as the hub of project planning, communication, issue resolution, and oversight of project delivery.




**MMIS Replacement Project Communications Model**

The IV&V PCO team must interface with other functions within DIT and DCH. It is crucial that each team member understand their roles on the PCO team and their responsibilities to the project and their home organizations. The Contractor will meet with each of the key PCO managers to develop the operating procedures of the PCO office. The Contractor will use the Group Development Model (GDM) to guide the team in this activity. The GDM process is shown in the figure below:




**Group Development Model**

Additionally, the State will provide two to four resources to directly augment the staff of the MMIS IV&V and PCO team. They will be valued team members, fully participating in all appropriate IV&V and PCO activities. Their assignments will be appropriate to their skills and without delineation between State PCO tasks and Contractor PCO tasks.

The Contractor will provide project specific mentoring and training to the State team colleagues. Assuming a base skill set appropriate for the position, The Contractor will assess the project specific skills and knowledge each resource required to perform their appointed function. The resulting training plan would emphasize self-paced review of existing project process and tool documentation and provide extended on-the-job training with an experienced mentor. The State will retain administrative responsibility for these resources, including, but not limited to, addressing job performance evaluation, career planning, and salary administration.

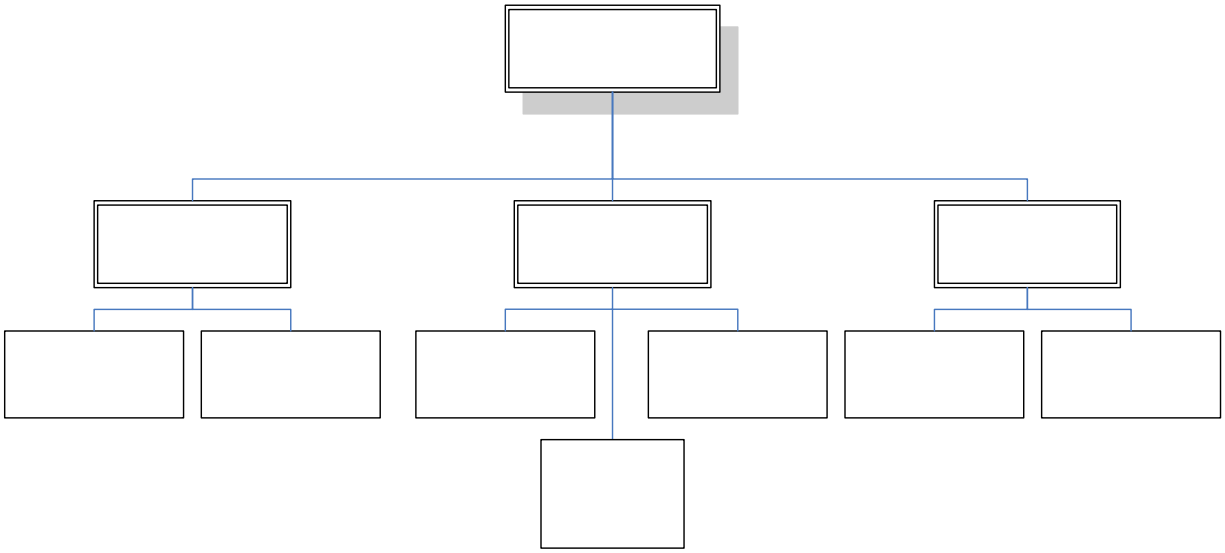
**Establish Project Organization Structure**

**“Establish Project Organization Structure**

During this task the contractor will work with the MMIS Implementation Vendor Project Manager and the DCH and DIT project managers to establish the structure of the MMIS Development and Implementation team. Roles and responsibilities to be defined include:

- Steering Committee
- Technical Advisory Groups
- MMIS User Groups
- Subject Matter Experts and Work Groups
- Quality Assurance Teams
- DCH/DIT Support Teams
- Development Team
- Project Managers (MMIS Contractor, DIT and DCH MSA)

Each group will be defined in terms of membership, operating procedures, reporting relationships, and roles and responsibilities. These will be defined in the PCO Organization Plan as shown in Figure below.



**IV&V and PCO Organizational Structure"**

### Establish Project Methodologies and Standards

It is expected that the MMIS Implementation Contractor will propose its own project management and software development methodologies. The Contractor will work with the MMIS Implementation Contractor project manager to develop a mutually agreeable project management methodology conforming to the state's PMM. The Contractor will analyze the proposed development methodology against the existing State and Department development standards and meet with the MMIS Contractor to agree on the specific software development methodology and standards for the project. Contractor and the MMIS Contractor will meet with the DIT Technical Advisory Group to finalize the Standards for Web Development, Database, and programming standards to be followed during the project. Any deviations from the existing Departmental and State standards will be documented and presented to the Project Steering Committee.

### Establish Project Scope and Requirements

Working with the MMIS Implementation Contractor, and the state, contractor will review key foundation documents that define the scope of the project. These foundation documents include:

- Contract 071I6200168
- The MMIS Implementation Contractor proposal
- Executed contract, including statement of work for the MMIS Implementation Contractor contract

- Materials in the ITB 071I6200037and contractor's proposal.

From this process, contractor will compile the following for inclusion in the PMP:

- Project Scope Statement
- Contract Deliverables and associated pricing, if applicable (used for earned value)
- Baseline Requirements
- Baseline Requirements Traceability Matrix

The above elements will be subject to review and approval by the Steering Committee.

**Establish Project Acceptance Criteria**

The contractor will work with the Department staff and the MMIS Implementation Contractor to develop acceptance criteria for each deliverable of the work plan. The acceptance criteria will be reviewed and approved by the Steering Committee.

**Establish Project Management Processes**

The contractor will establish mutually agreeable project management processes conforming to the TMM methodology, including:

- Change Control
- Risk Management
- Issue Management
- Communications Management
- Configuration Management
- Quality Management

**Finalize Project Logistics**

The contractor will work with DCH, DIT, and the MMIS Implementation Contractor to establish a productive working environment for the staff assigned to the project, including work locations, security access and badges, e-mail accounts, directory access for software and documentation, telephone, etc.

**Develop Project Management Plan**

The results of the above tasks will form the nucleus of the PMP, which serves as the centerpiece document describing how the project is to be administered. The PMP is a 'living' document that evolves as the project evolves but always serves as the reference document for managing the project. The PMP will be reviewed and approved by the Steering Committee.

**Work Plan Construction**

The contractor, the MMIS Implementation Contractor project manager, the DIT project manager, and the DCH project manager will develop an integrated project work plan for the transfer, customization, and implementation of the MMIS system; and the development and implementation of the web portal and the Customer Relationship Management (CRM) system. The work plan must include all tasks to be performed and deliverables to be produced during the implementation, including those tasks and deliverables, which are the sole responsibility of the State as well as tasks and deliverables that are the responsibility contractor. The deliverables, phases, and software releases of the master project plan will be spelled out as fully as possible. For the MMIS development and implementation master project plan, and the contract, including the Appendices, are the key inputs. Working collaboratively with the State and the MMIS Implementation Contractor, the Contractor will create baselines for the following:

- Project objectives: the project objectives will be reexamined and validated.
- Scope: During this task, the Contractor will work with the MMIS Implementation Contractor to finalize the scope of the MMIS system, the web portal, and the CRM components. The requirements documented in implementation Contractor will serve as the basis for the scope

definition. These will be validated in a series of JAD sessions with the users. Specifically, the scope elements will include:

- Specific functional components to be implemented
- Definition of the specific requirements of each function.
- Establishing the release schedule for each of the components
- Implementation plans for all elements of the contract

Base-lining the scope of the project is a necessary pre-condition for building a baseline work plan and schedule. From the baseline scope of the project a work plan and schedule will be built that will support effective project status monitoring and reporting. The Contractor will provide a work plan that can support earned value reporting. Characteristics of such a work plan include a work breakdown structure (WBS) that is:

- Deliverables-based – the structure of the work plan will be driven by formal and informal deliverables produced during the course of the project. Informal deliverables are those which are not contractually required but are logical and necessary artifacts created as a product of the Contractor's system development methodology. Formal deliverables are those contractually required and typically are tied to contractual payment events. By building a project work plan in this fashion, effort and cost can be captured at a deliverable level, supporting earned value metrics and reporting.

- Effort-driven –durations of individual tasks of the work plan must be derived from effort and resource profile estimates founded on a documented basis of estimate methodology. What is needed is a documented repeatable method for calculating effort and resource requirements for each task of the work plan. Only by doing this can the work planning and scheduling processes be validated and improved over the life of the project.

- Hour Granularity - The tasks of the work plan will be estimated in hours, not days or any other units, and that individual tasks be limited to no more than 80 hours of effort whenever possible.

Through the development of the master work-plan and schedule, the PCO will confirm the milestones and resource plan are realistic for achieving the project scope.

**Resource Plan:** using the work plan created above, the Contractor will derive the time-dependent resource plan, including the MMIS Implementation Contractor, state, PCO, and other resources as identified and required. Contractor will then create a resource analysis report and resource demand forecast for all participating organizations. Contractor will then work with the State and The MMIS Implementation Contractor to finalize the staffing plan and any training that is needed.

With the help of the State, The Contractor will identify impacted organizations, both internal and external. This would include individuals or organizations affected by the MMIS Implementation Contractor's services and the key contacts for existing systems and users along with any projected new user base. At a minimum, this would involve the PMO, DCH, and DIT. It may also involve representatives from the DCH provider and partner communities as well as members from Treasury. Identifying these individuals and organizations will be critical to the success of the new MMIS. With the help of the State, the Contractor will identify the stakeholders and document the following for them:

- Their sphere of responsibility
- Their impact on the new MMIS
- The impact of the new MMIS on them
- Their interaction with the development and implementation Contractor and the PCO team.

This information will become part of the Communication Plan.

**Communication Plan:** Using the information gathered in the previous step, impacted organizations/interfaces; the MMIS communication plan will be tailored to meet the needs of the development and implementation initiation effort.

**Assumption, Issue, and Risk Identification:** Contractor will work with the State and the development and implementation Contractor to create a comprehensive list of assumptions, concerns, and perceived exposure on this project and begin to populate the Risk Register.

### Develop MMIS Project Charter

The results of the above tasks will be organized into the MMIS Project Charter. The Charter will present to the MMIS steering committee for their review and approval and when approved will be incorporated into the PMP.

## Ongoing Project Management Phase

Following the Initiation Phase, the project will transition to the Ongoing Project Management Phase. This is clearly where the majority of project activities will occur and where contractor will ensure that these are carried out in an effective and efficient way. At the same time, during this phase, the Contractor will ensure that measurements against project plans, specifications, and the requirements continue to be collected, analyzed, and acted upon throughout the project lifecycle.

Contractor will ensure that the State is kept abreast of all project developments and status through adherence to the Communications Plan and the Contractor will manage risks, issues, change, and quality according to the procedures laid down during the Initiation Phase.

Contractor's project management methodology ensures accurate and continuous visibility into the project throughout the project life cycle. Establishing a comprehensive series of project management and project lifecycle metrics accomplishes the contractor's goal to measure comprehensively. These instruments promote rigorous tracking of issues and action items, project cost management, plan variance analysis, requirements traceability across the project lifecycle, as well as deliverable and milestone tracking.

### Project Status Reporting

**Objectives**
Contractor's approach to project tracking and oversight is the distribution of pertinent information to the right people at the right time. The Contractor will achieve the objectives that follow.

- **Objective 1:** Describe the current status of the project activities – for example, communicate if all project activities are on schedule or not.
  - Schedule Variance (SV): SV = Actual hours – Estimated hours.
  - % Work complete
  - For each currently open and unfinished task, budgeted, actual, and remaining hours to complete and compute effort variance
  - (*Actual hrs + estimated hrs to complete – budgeted hrs*).
  - Changes to the critical path (e.g., activities being started late, completed late, or taking longer than expected)
  - Completion of milestone activities

- **Objective 2:** For project activities that are behind schedule, provide an explanation as to why. The explanation should be specific and focused on the cause.

- **Objective 3:** For project activities that are behind schedule, communicate how this delay will impact the project.

- **Objective 4:** For project activities that are behind schedule, provide a recommended resolution plan that keeps the project on course. If that is not possible, a resolution plan should be communicated that minimizes the impact to the project.

- **Objective 5:** In order to assess the quality of software, track the number of reworks. Re-works are deliverables that have been sent back to the developers because they were not ready for testing. Continued high levels of reworks can indicate that the software development process is not operating effectively and adjustments may be required.

- **Objective 6:** Project Issues will be communicated during project status meetings. It is recommended, at a minimum, that the project performance reports include the following information regarding project issues:

    - The number of new issues added to the Project Issue Log since the last status meeting and how many of those issues are high, moderate, and low risk.
    - The number of issues resolved since the last status meeting.
    - Issue Aging:

        - The number of high risk issues that has been in the Project Issue Log for 0 to 30, 31 to 60, and over 90 days.

        - The number of moderate risk issues that has been in the Project Issue Log for 0 to 30, 31 to 60, and over 90 days.

        - The number of low risk issues that has been in the Project Issue Log for 0 to 30, 31 to 60, and over 90 days.

- **Objective 7**: Assurance that the schedule has been optimized. Schedule optimization refers to the effort of reviewing the schedule to determine if any adjustments could be made that improves the utilization of people, time, and money.

- **Objective 8**: Forecasting – predict the project status for the next reporting period.

- **Objectives 9**: Newly identified project risks will be communicated. Risk Management is a proactive event attempting to prevent project issues. When reporting project risks, the following information will be included:
    - Risk description.
    - Potential impact to the project if the risk becomes a project issue.
    - Likelihood of occurrence.
    - Timing – how far out into the future does this risk reside (0 – 30, 31 – 60, or 61 – 90 days).
    - Trigger activity that would cause the risk to transform into a project issue.
    - Risk Ranking – High, Medium, or Low risk.
    - Recommended resolution plan

- **Objective 10**: Information regarding approved Change Orders, and/or changes to the Scope of the Project are reported.

    Depending on the capabilities of the state's PCO tools suite, the Contractor will generate these metrics using those tools. Status monitoring and reporting involves tracking and reviewing project accomplishments and results against documented estimates, commitments, and plans, then adjusting them based on the actual accomplishments and results. Establishing an effective project reporting framework and instituting a comprehensive series of project performance and project lifecycle metrics support the contractor's approach to project status reporting. This framework will permit the Contractor to support State ad hoc reporting requirements and generate any of the necessary reports required by the DIT Project Manager. This framework is also central

to the contractor's approach for comprehensive project tracking and oversight, which the Contractor will accomplish through a combination of continuous task status monitoring, coupled with regular project reviews. The following sections describe the framework and methodology for proactively managing the project work plan and schedule.

**Weekly Task Status Reporting**

The foundation of Contractor's project status reporting methodology is regular (weekly) status reporting at the WBS level from the project work plan. The Contractors vehicles for collecting this information are the state's Time Tracker system and the project status reporting template illustrated in Figure below.

**Task Status Report**

| | |
|---|---|
| **PROJECT NAME:** | Mi MMIS |
| **PROJECT NUMBER:** | Mi MMIS |
| **FUNCTIONAL AREA:** | Training |
| **PROJECT LEAD:** | Jane Doe |
| **PERIOD ENDING:** | **MM/DD/YYYY** |
| **REPORTED BY:** | Sample, Sample |

**ACCOMPLISHMENTS FOR THIS REPORTING PERIOD**

**WBS 9999.99 CRS Functionality Course Materials**

Unit Mgr/Supervisor: John

Scheduled Start Date: MM/DD/YYYY

Actual Start Date: MM/DD/YYYY

Scheduled Completion Date: MM/DD/YYYY

Budgeted Hours: 99999

Actual Hours To Date: 99999

Estimated Hours to Complete: 9999

Estimated Completion Date: MM/DD/YYYY

Task Status (Red/Yellow/Green):

Activities:

- Continued development of participant account section of course
- Participated in use case review meetings
- Provided technical assistance to new members of training and testing teams

**CONCERNS/OTHER**

Courseware development limited, awaiting software release.

**Task Status Report Template**

The reporting template supports earned value reporting and also provides a very sensitive 'tripwire' to identify tasks that may be in danger of running late or over budget. A very simple formula is applied to measure task health:

*Budgeted Hours – Actual Hours + Estimated Hrs to Complete*

If this metric is negative, the task is proceeding according to budget. If this metric is positive, then the task is estimated to require more effort than budgeted and is a cause of concern. Of course, a single task running over or under budget may or may not be significant. It is the summation of the task status of all tasks associated with a deliverable milestone that is important, and the PCO will do this summation to determine if a

milestone is at risk. In order to do this, contractor assumes that the state's Time Tracker system can capture timesheet information at the WBS level.

Contractor will schedule and moderate weekly status meeting with managers and team leaders and review the PSR. Deliverables for the current periods are indicated, as well as those planned for the next week. This document supports the Contractor's approach to communication planning, as well as effective deliverable tracking.

Individual Task Status Reports can be compiled into a summary report listing all open tasks and their status as shown in Table 4-5.

**Summary Report of Task Status**

| Summary Report of All Open Tasks As of MM/DD/YYYY | | | | |
|---|---|---|---|---|
| **Baseline Budgeted Effort** | **Actual Effort To Date** | **Estimated Hrs to Complete** | **Total Hrs (c + b)** | **Task Status (R/Y/G)** |
| 45 | 20 | 15 | 35 | G |
| 40 | 35 | 15 | 50 | Y |
| 40 | 60 | 25 | 85 | R |

The project schedule is updated with the prior week's status information and timesheets by close of business each Monday. After the schedule is updated, a number of tools are used to extract data from the schedule and to perform completion-to-milestone and earned value analyses, which form the basis of the project review process.

**Project Reviews**

Metrics management will provide a solid foundation for regular project reviews. These metrics will provide qualitative measurement and objective reporting relative to progress of the project against plan, the quality of the products produced, and the timely resolution of issues and management of risks. A suite of key metrics will be instituted, that together with consistent processes will provide critical information to the DIT Project Manager, the MMIS Executive Steering Committee, and The MMIS Implementation Contractor about the overall project health.

Key metrics will include:

- Earned Value Analysis: Schedule variance
- Late task aging
- Resource usage
- Defects (Testing)
- Defects (In Production)
- Open issues tracking (from Tracker)
- Open action item tracking
- Project health analysis (point-in-time, phase-end reviews)
- Risk mitigation effectiveness

Metrics management will provide the rigorous analysis and quantitative measures that will establish a sound program of objective reporting and a solid foundation to support continuous process improvement. In conjunction with the State, the contractor team will establish appropriate metrics to measure actual performance and these will be reviewed each week so that the management and executive leadership decisions are based on current and relevant project status. Examples of key performance metrics include:

- Actual effort is too far from (or too close to) the original estimate.
- Tasks are marked as complete, but the programs are not checked in the code repository.
- Staff member reported effort versus available working time.

**Approach:**

The contractor's recommended project review process makes use of a comprehensive template that provides quantitative metrics and metrics variances. Most status reports focus on past achievements, upcoming activities, and any issues or obstacles to project progress. In contrast, this project review template addresses the following:

- A project should be based on a written contract and SOW that define the duties of each party.
- Status should report variance in performance, the impact of variance on project budget, schedule and quality, and proposed corrective action. It should report variance against plan for all parties involved in the contract, including the client's. This answers the executive question: "Are we on track, and if not, what should we do about it?"
- Status should report ongoing risk mitigation progress. This answers the executive question: "What issues do you foresee that are likely to impact the project in the future, what actions should we take to minimize the risk, and how are we doing in taking those actions?"
- Status should be transparent, traceable, and auditable. A quantitative approach tied to the project's SOW allows for the project to be independently audited.

**Earned Value on a Fixed Price Contract**

On fixed-price contracts an Earned Value approach provides a convenient metric to measure overall project health. Earned Value methodology can measure two key metrics: cost variance and schedule variance. On a fixed price contract such as the MMIS Replacement Project, Contractor cost information is not generally available so cost variance as measured by earned value is not a usable metric. Rather, contractor will focus on quantitatively and graphically representing variance from the planned schedule. To do so, the services for the project must be expressed in a work plan that is deliverables-based conforming to the contract SOW. This means that the deliverables are allocated a dollar (or alternately, % of contract) value and a set of formal acceptance criteria.

The following sections describe not only the contractor's recommended project review template, but also how the earned value method will be used to generate key metrics that will be the focus of the project reviews.

***Project Review Template Section 1 – Project Summary Layout & Content***

**Description**

The project summary provides an executive summary view of the health of the project utilizing a limited set of factors that each are scored both subjectively (i.e., Alert Level) and objectively (i.e., Metric). It also scores the implementation Contractor and Buyer (state) duties separately. These are illustrated in Figure 4-12 and the accompanying legends (see Tables 4-6 through 4-7).

| Factor | | Contractor | | | Buyer | | |
|---|---|---|---|---|---|---|---|
| # | Name | Alert Level | Metric | Value | Alert Level | Metric | Value |
| 1 | Project Progress | G | earned value schedule variance: | -5% | G | # of open issues relating to Buyer Duties | 2 |
| 2 | Acceptance / Quality | G | % on-time submittal: | 100% | G | % on-time responses: | 100% |
| | | | % 1st time acceptance: | 100% | | | |
| | | | # level 1 issues: | 0 | | | |
| 3 | Risk Mitigation | G | % on-time actions: | 100% | G | % on-time actions: | 100% |
| 4 | Issue Resolution | G | # of open level 1 issues: | 5 | G | % on-time resolutions: | 100% |
| | | | # of open level 2 issues: | 10 | | # currently-open late issues: | 1 |
| | | | Current Issue Trend: | Down | | | |

| Factor | | Change Order Metrics | | | | |
|---|---|---|---|---|---|---|
| # | Name | Alert Level | Metric | Accepted | Open | Rejected |
| 5 | Change Orders | G | number | 0 | 0 | 0 |
| | | | cumulative cost impact: | $ - | $ - | $ - |
| | | | cumulative sched impact: | 0 Days | 0 Days | 0 Days |

**Sample Project Summary**

**Legend: Contractor Metrics**

| Factor | Metric | Description |
|---|---|---|
| 1. Project Progress | earned value schedule variance | The difference between planned and actual earned value independent of total cost (since the total cost is fixed). |
| 2. Acceptance / Quality | % on-time submittal | The un-weighted percentage of deliverables submitted on or before the date specified in the Statement of Work. |
| | %1st time acceptance | The un-weighted percentage of deliverables accepted after the first submittal. |
| | # of level 1 issues | The cumulative buyer-generated showstopper issues during acceptance review. A "showstopper" issue is one that is serious enough to prevent buyer acceptance of a deliverable. |
| 3. Risk Mitigation | % on time actions | The un-weighted percentage of risk actions completed per initial plan. |
| 4. Issue Resolution | # of open level 1 issues | The number of level 1 issues currently open. See section below on "Issues". |
| | # of open level 2 issues | The number of level 1 issues currently open. See section below on "Issues". |
| | current issue trend | Specifies whether the number of open issues is increasing or decreasing. Values are: "Up" or "Down". |

**Legend: Buyer Metrics**

| Factor | Metric | Description |
|---|---|---|
| 1. Project Progress | # of open issues relating to Buyer Duties | The number of issues in the project issue log still open that relate to buyer duties specified in the governing SOW. An example is where a critical resource on the buyer's staff who was staffed on the project is not available to define business requirements. |
| 2. Acceptance / Quality | % on-time responses | The un-weighted percentage of deliverables where the official buyer response was submitted within contractually required period. |
| 3. Risk Mitigation | % on time actions | The un-weighted percentage of risk actions completed per initial plan. |
| 4. Issue Resolution | % on-time resolutions | The number of closed issues in the project issue log that were resolved within the time period specified in the governing SOW. |
| | # of currently open late issues | The number of closed issues in the project issue log that were resolved within the time period specified in the governing SOW. |

**Legend: Change Orders**

| Factor | Metric | Description |
|---|---|---|
| 1. Change Orders | number | The number of change orders submitted, broken down by those accepted, open, and rejected by the buyer. |
| | cumulative cost impact | The monetary sum of change orders submitted, broken down by those accepted, open, and rejected by the buyer. |
| | cumulative schedule impact | The sum of the change in the go-live date, measured business days, of change orders submitted, broken down by those accepted, open, and rejected by the buyer. |

### Alert Level

For each factor, a subjective assessment is provided. The values are color coded for convenience of the reader. The values are defined in Table below.

**Values for each Alert Level used in the Project Summary**

| Alert Level | Description |
|---|---|
| Red (R) | Steering Committee action required in this area |
| Yellow (Y) | No immediate Steering Committee action required in this area. The project manager is making the Steering Committee aware because there are some concerns that are currently being managed effectively by the project team. |
| Green (G) | Project proceeding according to plan in this area, and is functioning within reasonable limits. |

### Project Review Template Section 2: Variance Analysis

### Description

The purpose of this section is to quantify and describe the impact of any variance against the project's plan as captured in the SOW. It uses Earned Value techniques to measure the variance.

### Content

#### *Calculation of Earned Value*

Earned Value is accumulated using the following formula:

EV = started_EV + submitted_EV + accepted_EV

Where:

started_EV = (deliverable started?) * deliverable_started_%
submitted_EV = (deliverable submitted?) * deliverable_submitted_%
accepted_EV = (deliverable accepted?) * deliverable_accepted_%

Also where:

| | |
|---|---|
| (deliverable started?): | Whether worked on the given deliverable has been started (Yes=1, No=0). The default is 25%. |
| deliverable_started_%: | The % out of total of 100% assigned once the deliverable is started |
| (deliverable submitted?): | Whether the deliverable has been formally (i.e., in writing) submitted to the buyer for acceptance (Yes=1, No=0). The default is 25%. |
| deliverable_submitted_%: | The % out of total of 100% assigned once the deliverable has been submitted. |
| (deliverable accepted?): | Whether the deliverable has been formally (i.e., in writing) accepted by the buyer (Yes=1, No=0). The default is 50%. |
| deliverable_accepted_%: | The % out of total of 100% assigned once the deliverable has been accepted. |

### Measurement of Variance:

Earned Value variance is measured against the "as of" date (reporting date). This means that variance can only occur if the "as of" date is on or later than baseline date. For example, if the variance report is issued as of 5/24, the fact that a deliverable due to start on 5/26 actually started later does not impact the 5/24 variance.

## Earned Value Schedule Variance Table

The Earned Value Schedule Variance Table is a deliverables-oriented presentation of all WBS deliverables comparing baseline start, due and acceptance dates to actuals. Table 4-10 shows the Earned Value Schedule Table and Table below provides the legend to decipher it.

### Earned Value Schedule Variance Table

| # | Deliverable | Baseline Earned Value | | | | Actual Earned Value | | | | Schedule Variance | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Start | Due | Accept | Value | Start | Delivery | Accept | Actual Value | Start | Due | Accept | Total |
| 1 | Software Requirements Spec.& Use Cases | 2/17 | 3/3 | 3/10 | $ 300,000 | 2/18 | 3/6 | 3/13 | $ 300,000 | $ - | $ - | $ - | $ - |
| 2 | Prelim. Project Plan | 2/18 | 3/4 | 3/11 | $ 100,000 | 2/23 | 3/9 | 3/16 | $ 100,000 | $ - | $ - | $ - | $ - |
| 3a | User Experience Brief | 2/25 | 3/11 | 3/18 | $ 100,000 | 2/25 | 3/13 | 3/18 | $ 100,000 | $ - | $ - | $ - | $ - |
| 3b | Site Map & Content Reqmts. | 2/25 | 3/11 | 3/18 | $ 100,000 | 2/26 | 3/14 | 3/19 | $ 100,000 | $ - | $ - | $ - | $ - |
| 4 | Logical Data Model | 2/25 | 3/11 | 3/18 | $ 100,000 | 2/27 | 3/15 | 3/20 | $ 100,000 | $ - | $ - | $ - | $ - |
| 5a | Test Guideline Specification | 2/25 | 3/11 | 3/18 | $ 200,000 | 2/28 | 3/16 | 3/21 | $ 200,000 | $ - | $ - | $ - | $ - |
| 5b | Customer Acceptance Spec. | 2/25 | 3/11 | 3/18 | $ 200,000 | 3/1 | 3/17 | 3/22 | $ 200,000 | $ - | $ - | $ - | $ - |
| 6 | Operational Assessment Report | 2/25 | 3/11 | 3/18 | $ 200,000 | 3/2 | 3/18 | 3/21 | $ 200,000 | $ - | $ - | $ - | $ - |
| - | Gap Analysis Document | 2/25 | 3/11 | 3/18 | $ - | 3/1 | 3/17 | 3/20 | $ - | $ - | $ - | $ - | $ - |
| 7 | User Interface Prototype | 3/11 | 3/25 | 4/1 | $ 200,000 | 3/3 | 3/20 | 3/27 | $ 200,000 | $ - | $ - | $ - | $ - |
| 8a | Activity Diagrams | 3/13 | 3/27 | 4/3 | $ 50,000 | 3/13 | 3/27 | 4/3 | $ 50,000 | $ - | $ - | $ - | $ - |
| 8b | Finalized Project Plan | 3/13 | 3/27 | 4/3 | $ 50,000 | 3/18 | 3/27 | | $ 25,000 | $ - | $ - | $ 25,000 | $ 25,000 |
| 9 | Deployment of Beta App. | 3/20 | 4/3 | 4/10 | $ 925,000 | 3/27 | 4/10 | | $ 462,500 | $ - | $ - | $ 462,500 | $ 462,500 |
| 10 | Deployment of Final App. | 4/13 | 4/27 | 5/4 | $ 925,000 | 4/13 | 4/27 | | $ 462,500 | $ - | $ - | $ - | $ - |
| 11 | Data Model Spec & Data Dictionary | 4/15 | 4/29 | 5/6 | $ 200,000 | 4/15 | | | $ 50,000 | $ - | $ 50,000 | $ - | $ 50,000 |
| 12 | Application System Release & Mgt. Guide | 4/20 | 5/4 | 5/11 | $ 200,000 | 4/20 | | | $ 50,000 | $ - | $ - | $ - | $ - |
| | | | | | $ 3,850,000 | | | | $ 2,600,000 | | | | $ 537,500 |

**Baseline Earned Value** - taken from the signed contract or approved change orders
**Actual Earned Value** - represents project results to-date
**Schedule Variance** - The difference between planned vs. actual earned value to-date

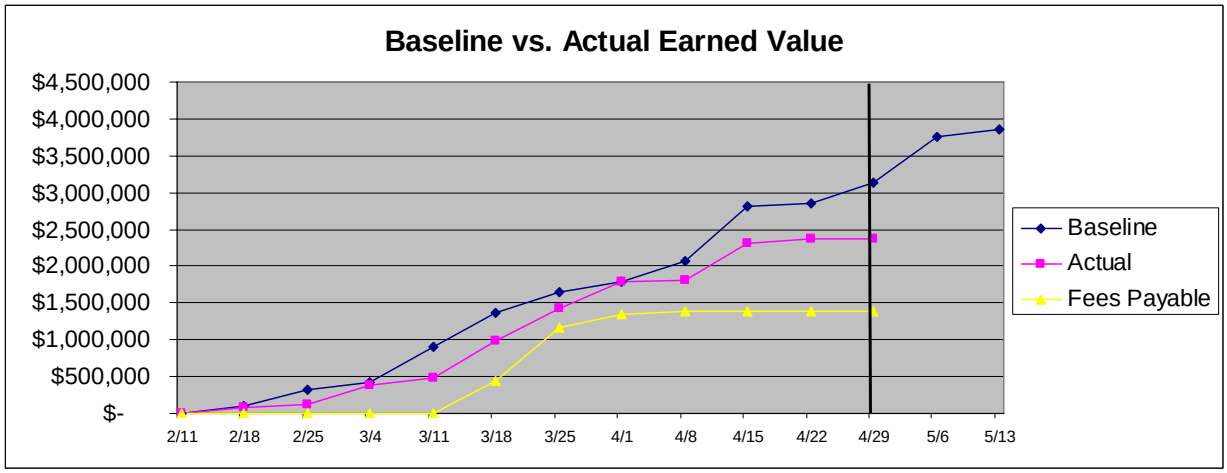
Negatively affects current earned value

Earned Value as of: 4/29/2002

### Legend for the Earned Value Schedule Variance Table

| Column | | Definition |
|---|---|---|
| Deliverable | | The name and number of the deliverable from the Statement of Work |
| Baseline Earned Value | Start | The planned date by which work on the deliverable is projected to start, as reported by the Contractor at the beginning of project. |
| | Due | The date by which the Contractor is required to submit the deliverable for acceptance, according to the Statement of Work. |
| | Accept | The date by which the buyer is required to formally respond with acceptance or rejection. |
| | Value | The monetary value of the deliverable as specified in the Statement of Work. |
| Actual Earned Value | Start | The actual date on which work on the deliverable began, as reported by the Contractor. |
| | Delivered | The actual date on which the Contractor submitted the deliverable to the buyer for acceptance. |
| | Accept | The actual date on which the buyer responded to the contract with acceptance of the deliverable. |
| | Actual Value | The monetary value of deliverable accumulated to-date as measured by the formula in the previous section. |
| Schedule Variance | Start | The difference between the expected and actual earned value for starting a given deliverable as of the reporting date. This is calculated as described in the previous section. |
| | Due | The difference between the expected and actual earned value for submitting a given deliverable as of the reporting date. This is calculated as described in the previous section. |
| | Accept | The difference between the expected and actual earned value for acceptance of a given deliverable as of the reporting date. This is calculated as described in the previous section. |
| | Total | The sum of the Start, Due, and Accept columns. |

Figure 4-13 is the Earned Value Schedule Variance Graph. This graph visually displays the current Earned Value status as well as trends. The Baseline is the planned Earned Value based on the Statement of Work plus any approved change orders. The Actual measures the Contractor's performance. "Fees Payable" measures Contractor fees that can be invoiced, based on the rule that fees are only payable upon acceptance.




**Baseline vs. Actual Earned Value Graph**

### Other Components

The Project Review Template contains a standard set of questions, intended to guide the analysis of any variance. Table 4-12 describes the questions and what kinds of information should be in the answers.

**Questions and Answers from the Project Review Template**

| Question | What the Answer Should Contain |
|---|---|
| Primary Cause(s) of Variance: | The Contractor's analysis of the most important causes of the variance. |
| Description: | An elaboration of previously-identified causes |
| Corrective Action: | What actions must be taken to correct the situation? Note that a large body of evidence has shown through the years that once a negative variance develops, it is highly unlikely that this variance can be "made up" later in the project. So the corrective action, if it is to be realistic, should advise increasing the schedule, reducing the work or adding resources. |
| Impact on Project Completion: | What impact is the current variance likely to have on the ultimate project end date? |
| Description: | An elaboration of the impact identified above. |
| Change Orders Required: | What change orders are needed or proposed to address the impact and implement the corrective action identified above. |
| Description: | An elaboration of the change order requirements identified above. |

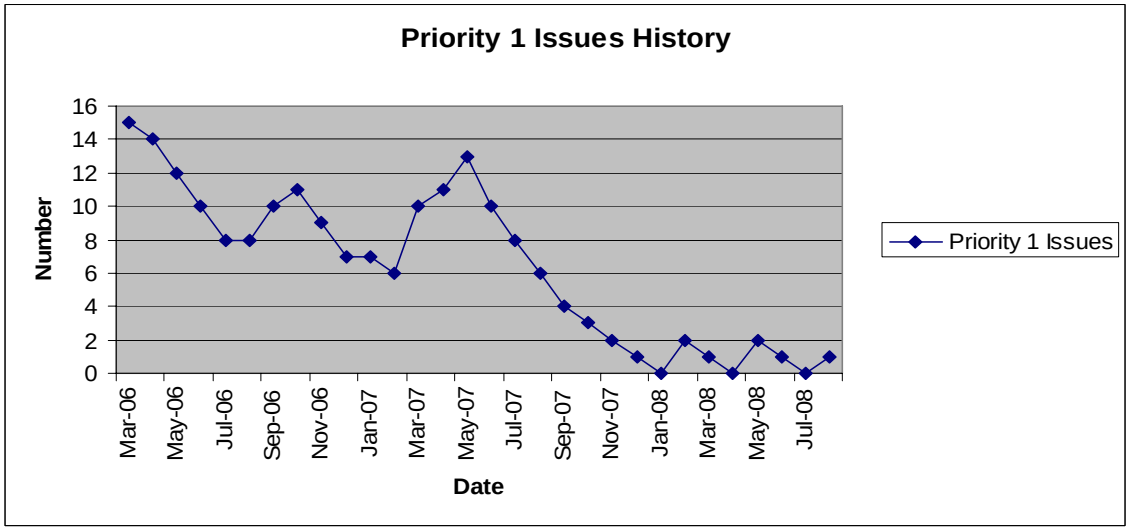
### *Project Review Template Section 3: Issues*

### Description

This section describes issues for action or awareness, not a complete list of all issues. It also shows the trend for cumulative open issues. As a healthy project nears a deadline, the trend for open issues should be down and approaching a very low number. Table 4-13 provides a view of the template for issues for action and awareness and Figure 4-14 provides a priority issues history graph.

**Key Issue Summary Content Table**

| Issue Management # | Description | Issue Opened |
|---|---|---|
| | | |
| | | |
| | | |
| | | |




**Project-to-Date Priority 1 Issue History Graph**

***Project Review Template Section 4: Major Activities***

**Description**

This section describes the tasks and accomplishments for the last reporting period and those planned for the coming period. Note that this section is commonly the focal point of status reporting. The approach described in this document gives primary focus to reporting quantitative and variance-oriented status. However, recording major activities is still important, even if it is not of primary importance. Table 4-14 provides an example of a Project Plan Progress summary table.

**Project Plan Progress Analysis/Major Activities report**

| MMIS Project Review MM/DD/YY |
|---|
| Major Accomplishment This Reporting Period |
| Commenced User Acceptance Testing Release #1 |
| Completed Scope Definition Statement for Release #3 |
| Installed Production Server Configuration and Declared Ready for Use |
| Planned Accomplishments Next Reporting Period |
| Complete User Acceptance Test Release #1 |
| Release #1 Implemented in Production |
| - |
| t |

**Executive Dashboard:**

On a regular basis, as determined by the state's PMM methodology, a high level 'project dashboard" compliant with the state's PMM methodology will be prepared and circulated. As mentioned earlier, if the project employs a project web site as a communications vehicle, the project dashboard would be recommended for inclusion on the web site. Figure 4-15 provides an example project dashboard.

| | Green | Yellow | Red |
|---|---|---|---|
| Major Milestone Tasks | < 10% of tasks late | 10 % to 29 % of tasks late | > 30% of tasks late |
| Major Milestone | Achieved | | Missed |
| Escalated Issues Not Resolved | | > 2 weeks | |
| No Plan to Evaluate Progress | | Target date for establishing plan is less than 30 days out | Target date for establishing plan is > 30 days out |
| Earned Value Schedule Variance (SPI) | .9 <= SPI <= 1.2 | .8 <= SPI < .9 or 1.2 < SPI | SPI < .8 |

**PCO Performance Thresholds**

**Approach for Managing Contingencies and Schedule Delays**

The cause of contingencies and schedule delays can be internal or external. External causes can include:

- Inability of external parties (providers, interface counterparts, etc.) to accommodate the project schedule
- Acts of God (fire, earthquake, blizzards, etc.)
- Technical Factors (network outage, software unavailability, etc.)
- Political
- Financial

Internal causes might include:

- Performance problems
- Incomplete requirements necessitating re-work
- Scope change
- Resource shortfalls
- Extended decision-making cycles
- Faulty estimation process

Generally, contingencies result in schedule effects of some kind, either a schedule alteration or change in scope for the project or a release. Some contingencies can be anticipated and will be incorporated in the risk register as risks and managed via the Risk Management Process. Often, technical risks or resource risks fall into this category. For example, if a certain technical capability were needed by a date certain, that technical risk would be included in the Risk Management Process. Other contingencies may arise unexpectedly and require a more ad hoc response, for example, a natural disaster.

The following discussion will focus on risks to the schedule that can and will be managed through the project status process.

The Task Status Report, Figure below, and the supporting project planning process is designed to detect project schedule problems early. The key metrics of the Task Status Report are the budgeted, actual hours to date, and estimated hours to complete metrics. When the formula

(*Budgeted Hours – Actual Hours + Estimated Hrs to Complete)*

yields a positive value, then that task is potentially in danger of affecting the overall schedule. In this case we will initially flag the task as *Yellow* on the Task Status Report and notify the State of Michigan about the problem. The relevant team leader, team manager, or project manager must devise an action plan for bringing the project back on track. The Contractor will work with appropriate managers from the MMIS Implementation Contractor and the State to understand the cause of the problem, assess alternatives, and devise an action plan. Generally, the root cause will be found to be due to one or more of the following reasons: 1) incomplete requirement definition, 2) change in scope, or 3) performance. In any event, once the root cause is determined a range of alternatives will be evaluated for mitigating the effect, including:

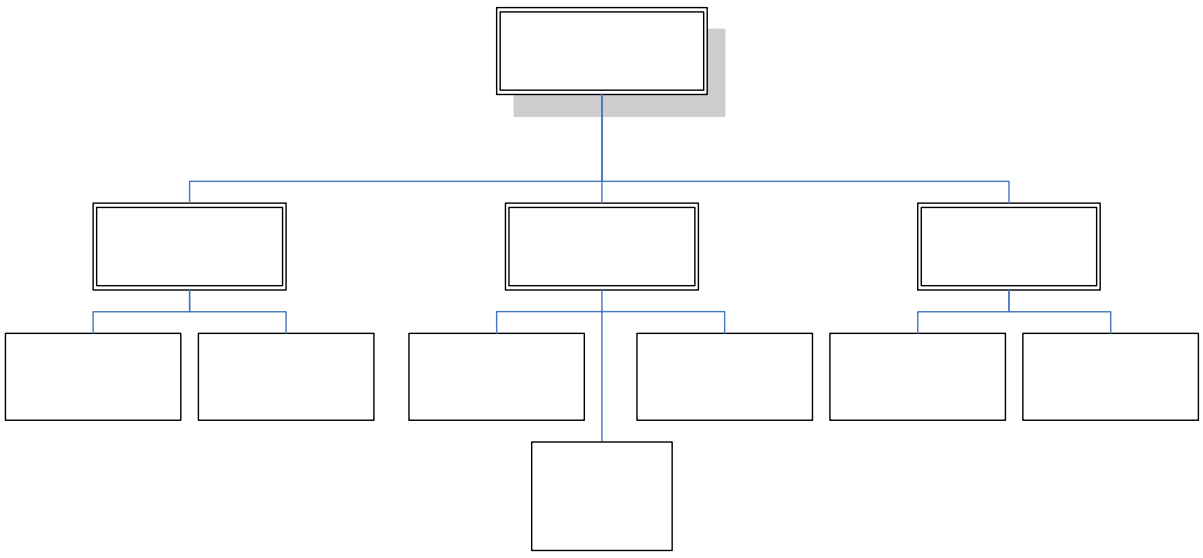
- Re-sequencing activities and tasks
- Redefining project and/or release scope and schedule
- Reallocation of staff based on skill requirements and availability
- Reexamination of functionality and requirements

The Contractor will incorporate the action plan into the project schedule and record a risk in the risk register to enhance visibility. This action plan monitoring becomes part of the weekly performance monitoring process until the project is again on schedule.

In the event the problem cannot be mitigated by any of the above actions, a schedule adjustment would be indicated.

**Approach to Interfacing with State Staff**

The Contractor team views itself as being integrated with both state and DDI Contractor personnel, forming a single project management control team working toward the goal of a successful project. The Contractor expects the resultant organization to be as depicted Figure below.



**IV&V and PCO Organization Plan**

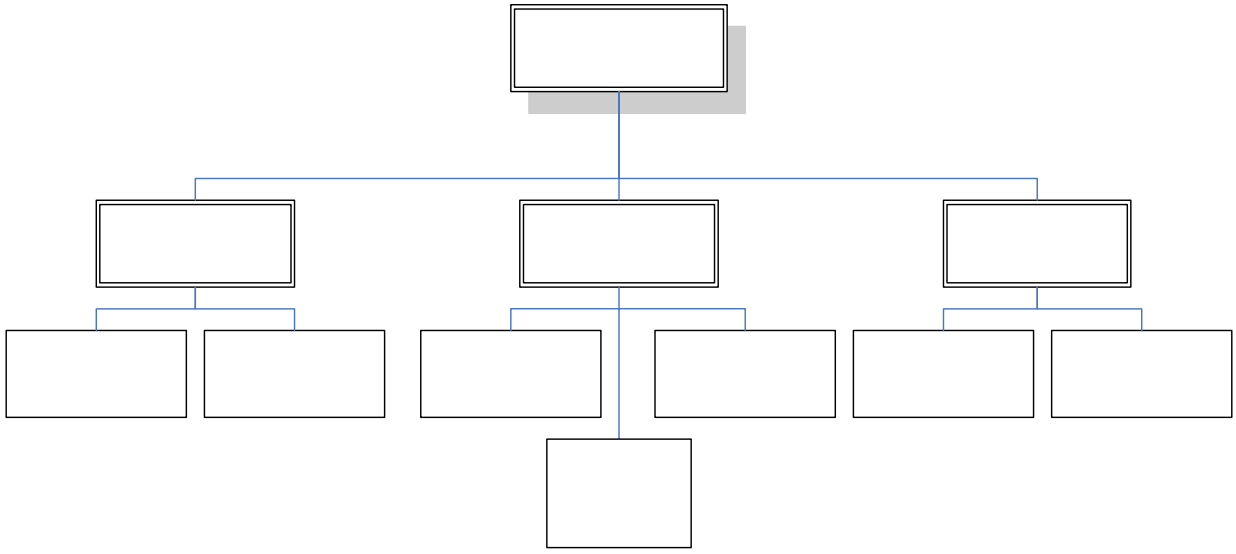
In this scheme, the natural collaborations, shown in Figure below, occur:

| This Functional Position: | Works Most Closely With: |
|---|---|
| MMIS Implementation Contractor Project Manager | Project Change (Release) Manager |
| Infrastructure Team Manager | DIT Technical Lead<br>MMIS Implementation Contractor Lead Architect |
| Quality Assurance/Test Manager | DCH Business Lead |

**Organizational Relationships and Collaboration"**

## Internal Management & Organization

Internal to the contractor team, contractor's responsible for day-to-day management of the Contractor team members, including sub-contractors. The contractor's team organization chart is provided in Figure below.



**Contractor IV&V and PCO Team Organization"**

### Internal Quality Control & Sign-Off Procedures

Contractor will employ a combination of internal peer reviews for personnel performance and a formal deliverable review and acceptance process for deliverables.

For team and individual performance against quality service levels, the contractor will regularly assess performance of the team as a whole as well as its individual members against both objective performance and customer satisfaction criteria. It is essential in a project such as this, where each team member relies on the performance of his or her peers, that the tem be cohesive and self-evaluating. Because of this, we will use structured peer reviews by team members to assess individual and team performance:

**Performance Assessment**

- Each team member will prepare a self-assessment of his or her performance over the past performance period. Such assessments will include timeliness and quality of services rendered and deliverables produced, 'lessons learned,' and self-improvement action items.

- Each team member will prepare an assessment of the overall performance of the team as a whole, which would include timeliness and quality, 'lessons learned,' and improvement action items.

- Contractor's PCO Manager will meet one-on-one with the team members to review their individual self-assessments and provide feedback. Where additional training may be indicated, contractor's PCO Manager will arrange for that either on a mentoring, in-service basis or self-study arrangement. In the extreme situation that the team member's performance jeopardizes the project or the team's performance, the PCO Manager may be compelled to act to find a substitute. In this case, the PCO manager will bring the matter to the attention of the state's project manager for consultation and action.

- Contractor's PCO manager along with Mr. McNally and Mr. Leigh, the Quality Assurance and Customer Satisfaction executives, will meet with the team as a whole to hear the team-level assessments and offer their own feedback, advice, and guidance to the team.

**Customer Satisfaction Assessment**

Contractor recognizes that not only must our team perform their responsibilities professionally and competently, but also that the state must be satisfied with the team's performance. In PCO-type engagements such as this, both objective as well as subjective performance attributes are critically important. Subjective factors include such things as teamwork, goal orientation, personality compatibility, and a host of other factors. To that end, contractor will hold regular (quarterly or more frequent) meetings among the three parties. At these discussions, contractor will share its assessment of the project and the contractor team's performance, 'lessons learned,' and improvement action items. For deliverables, Contractor will implement the very practice it recommends be used for the DDI Contractor's deliverables, which features:

- Pre-defined acceptance criteria negotiated with the state
- Internal peer review prior to publication
- Review by state-designees with documented review results
- Repair and resubmission for final acceptance

**Task 1 – Independent Validation & Verification (IV&V) Services**

**Objectives:**

Contractor will assist the State with planning, coordination, verification, validation, and quality assurance services. The Development and Implementation Contractor will be expected to cooperate fully with the PCO/IV&V Contractor. This team shall be comprised of MMIS/industry experts who will assist the State in an advisory capacity. Areas in which this team will aid this project include:

- Providing in-depth MMIS system implementation and Medicaid policy knowledge and expertise;
- Validating project requirements;
- Conducting detailed reviews of project deliverables;
- Providing input into project planning;
- Providing experienced-based best practices information;
- Advocating change within the stakeholder community and;
- Communicating barriers to change.

Contractor work tasks and activities will fall into six general categories, each of which is described in greater detail below:

1. System Analysis
2. Requirements Validation
3. Change Requests
4. Issue Resolution
5. Quality Assurance and Testing
6. Change Management

## 1. System Analysis

During this task, contractor will review the proposed MMIS system and the transfer states operations to identify and quantify target opportunities for operational and policy improvements which can be implemented concurrent with the Replacement MMIS system implementation. Specific tasks to be accomplished include:

**Analyze current claim types**:

The Department processes over 35 million claims and 22 million encounters each year. During this task the contractor will stratify the claim volume several ways for the purpose of determining the types of claims and the Departments operational experience with each claim type.

It is expected that the Contractor will look at the claims by:

- Type of Claim – e.g. Professional, Institutional, or Dental
- Mode of Claim Transmission – Paper, or Electronic or Direct Data Entry DDE
- Clearinghouse volumes (ranking of the ten (10) largest entities by claim type)
- Provider Type
- Program – Children with Special Needs, MICHILD, Capitated Plans, Long Term Care

Each area of review will be analyzed in terms of Volumes, number of claim rejections, number of claim adjustments, time from claim receipt until final adjudication. These statistics will be benchmarked against the experience of other carriers and payers. Ideally the benchmarks will include:

- Medicare
- Transfer State
- Blue Cross Blue Shield of Michigan
- Other Private carriers – e.g. Delta Dental
- Other State Medicaid Programs

The result of the task will be a report, which analyzes the Department's operational performances against other payers and identifies key areas for improvement for the new MMIS system implementation.

**Summary of Current Payment Methodologies**:

One of the items that MDCH is investigating is the concept of aligning with Medicare's payment methodologies. There are current differences between Michigan Medicaid's payment methodologies as they relate to Outpatient – Claims, APC versus fee for service, Mental Health Institutional Claims – Prospective Payment versus DRG payments. The purpose of this task is to determine the impact of moving to Medicare's payment system on MDCH current claim reimbursement operations. These items to be reviewed include:

- Coding systems and their relationships to the APC groups
- Variances between Medicaid policy and Medicare policies imbedded in the APC grouping
- How to handle services not covered under Medicare's rules
- How to handle hospital's that have special payment status under Medicare's rules
- Medicare's different interpretation of the Correct Claims Initiative

The outcome of this review will be a set of recommendations regarding the implementation considerations of the Medicare payment methodologies within MDCH.

**Develop Task Report**:

During this task contractor will organize their analysis into a formal report to the MDCH-Medical Services Administration. The report will make specific recommendations related to policy, operations and procedural improvements which should be accomplished as part of the MMIS System Replacement project. These approved recommendations should be integrated into the overall MMIS Replacement Project Work Plan.

## 2. Requirements Validation

Contractor will work with the MMIS project team to validate the understanding of requirements. The requirements documented in the implementation contract 071B6200168 will formulate the basis for the discussion. The requirements validation will be performed through a series of JAD sessions between the MMIS Implementation Contractor, key MMIS users and stakeholders. Contractor may need to attend the JAD Sessions to meet this requirement. The requirements document will be updated to reflect the agreed understanding of needs between DCH/MSA, DIT and the MMIS Implementation Contractor. This document will form the basis for scope for the MMIS implementation activities.

## 3. Change Requests

During the initial development phase, as well as the transition phase, there may be a need for enhancements and changes to the MMIS system. New requirements could result from legislative mandates, new policy or program changes by the State of requirements missed during the definition activities. Any change of scope will be documented by the contractor and presented to the Steering Committee for approval. The Change Request will document the need and purpose for the change, functional and technical changes required for the change, and the impact on resources, budget and implementation schedule. Approved change requests will be grouped into releases and integrated into the project work plans.

## 4. Issue Resolution

Contractor will lead the analysis of project issues which impact schedule, functionality, quality or performance of the new system. Issue papers will be developed and reviewed with each of the appropriate Project Committees for approval. Final decision on resolution of significant issues will rest with the Steering Committee. Contractor will be responsible for the oversight and facilitation of the resolution as necessary.

## 5. Quality Assurance and Testing

Quality Assurance and Testing will focus on the validity and accuracy of the project deliverables produced by the MMIS Implementation Contractor team and the accuracy of test results from the replacement MMIS system. It is expected that the contractor will review all deliverables required from the MMIS Implementation Contractor Team. In addition, the contractor will work with State staff on acceptance, claim payment validation, disaster recovery testing for the new system, and facilitating resolution of any defects discovered. The contractor will also perform deliverable reviews for project documents submitted to the State by the MMIS Implementation Contractor team, including but not limited to the following:

| | MMIS Implementation Contract Reference Deliverable | MMIS Implementation Contract Reference |
|---|---|---|
| 1 | Detailed Project Plan | 1.006 C 3 |
| 2 | Equipment/Technology Acquisition Plan | 1.006 C 9 |
| 3 | Install and Verify Base System Functionality | 1.006 C 10 |
| 4 | Documentation Standards Plan | 1.006 C 8 |
| 5 | Web Portal Requirements Validation Document | 1.007 B 4 |
| 6 | Provider Enrollment Requirements Validation | 1.009 B 4 |
| 7 | Quality Management Plan | 1.006 C 5 |
| 8 | DMS Requirements Validation | 1.008 B 4 |
| 9 | Data Conversion Requirements | 1.006 C 12 |
| 10 | Software Development Approach | 1.006 C 6 |
| 11 | Detailed System Design Document for Web Portal | 1.007 B 4 |
| 12 | Web Portal Test Plan | 1.006 C 17 |
| 13 | Provider Enrollment Detailed Design (DSDD) | 1.009 C 4 |
| 14 | System Documentation | 1.011 C 2 |
| 15 | Requirements Validation Document (Integrated) | 1.006 C 13 |
| 16 | Operation Date for Web Portal | 1.007 G 4 |
| 17 | Web Portal Testing Results | 1.007 F 4 |
| 18 | DMS Detailed Design (DMS DSDD) | 1.008 C 4 |
| 19 | Data Conversion Detailed Design | 1.010 C 4 |
| 20 | Document Management System Test Plan | 1.006 C18 |
| 21 | Service Authorizations and Referrals Design | 1.010 C4 |
| 22 | Provider Services Design | 1.010 C 4 |
| 23 | General Design | 1.010 C 4 |
| 24 | Program Investigation Design | 1.010 C 4 |
| 25 | Contracts Management Design | 1.010 C 4 |
| 26 | Benefits Administration Design | 1.010 C 4 |
| 27 | Member Services Design | 1.010 C 4 |
| 28 | Financial Services Design | 1.010 C 4 |
| 29 | Eligibility and Enrollment Design | 1.010 C 4 |
| 30 | Claims and Encounters Design | 1.010 C 4 |
| 31 | Interfaces Design | 1.016 J |
| 32 | Facility and Data Security Plan | 1.006 C 14 |
| 33 | Business Continuity and Contingency Plan | 1.006 C 15 |
| 34 | Operation Date for Provider Enrollment | 1.009 G 4 |
| 35 | Test Results for Provider Enrollment Subsystem | 1.009 F 4 |
| 36 | Data Conversion of Provider File | 1.009 D 4 |
| 37 | Acceptance Test Report | 1.010 F 4 |
| 38 | Detailed System Design Document (Integrated) Updated | 1.010 B 4 |
| 39 | Operation Date for Expansion DMS | 1.008 G3 |
| 40 | Data Conversion for DMS | 1.008 D 4 |
| 41 | Test Results for DMS | 1.008 F 4 |
| 42 | Procure, Install, and Configure Acceptance Test Environment | 1.016 I 1 |
| 43 | MMIS Acceptance and Operations Test Plans | 1.006 C16 |
| 44 | System Test Report | 1.010 E 4 |
| 45 | Implement and Test Business Continuity and Contingency Plans | 1.016 G 6 |
| 46 | Updated Turnover Plan | 1.011 B 1 |
| 47 | Data Conversion- Other MMIS | 1.010 D 4 |
| 48 | CMS Certification | 1.013 C 2 |

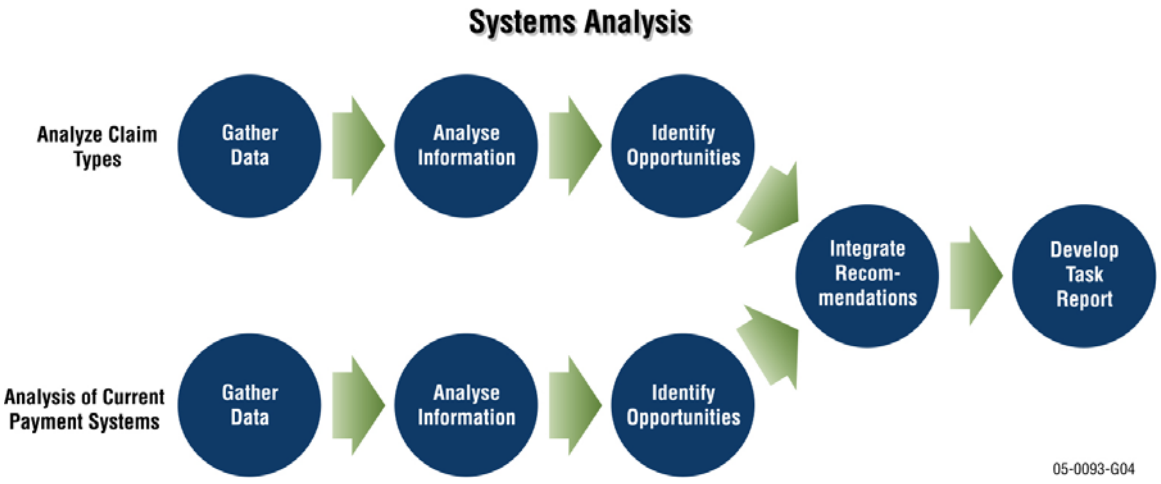
## Task 1: Contractor Approach for meeting IV&V Objectives

Contractor will provide services which will vary due to the varied nature of the tasks themselves. For the analysis tasks, the Contractor will create small focused work teams consisting of contractor analyst(s) teamed with appropriate subject matter experts from the State. These teams will agree on the approach to the analysis, appropriate sample populations, sampling methodologies, suitable metrics, analysis methodology, and other participants. The results of the analysis will be compiled into report complying with previously agreed-upon format and content standards. The Contractors analyst(s) in conjunction with state subject matter experts will also prepare statements of findings, conclusions, and recommendations for presentation to Department executives and stakeholder.

For the requirements validation task, the Contractor will facilitate JAD sessions between MMIS staff and the MMIS Implementation contractor. The Contractor will prepare a baseline inventory of requirements organized by function; e.g., Web Portal, Image System enhancement, Call Center enhancement, Claims Processing System. Using these breakdowns, contractor will assist in preparing agendas and handout materials, confirming participation and scheduling, and facilitate the JAD sessions themselves.

Systems Analysis

Contractor's overall approach to performing the systems analysis task is diagrammed in Figure below:




**Systems Analysis Process Description**

### Analyze Claim Types

The purpose of this task is to identify potential operational strengths and weaknesses of the current MMIS operations, to benchmark the State's claims processing operation against other payer operations and to identify potential areas for improvement.

### Gather Historical Claims Statistics

To determine if there are predictable operational experience differences between various types of claims, The Contractor will query the data warehouse for the last 3 years of claims history. The Contractor will stratify the information by:

- Type of Claim
- Mode of claim transmission
- Clearinghouse volumes
- Provider types
- Program

Various sub-sets of claims (for example, claim type, provider, et al) will be analyzed to detect variations in processing outcome (for example, elapsed time from receipt to adjudication, probability of being pended, etc.). Each area will be analyzed in terms of claim volumes, number of claim rejections, number of claim adjustments, time from claim receipt until final adjudication.

The data will be organized so that trends are identified and potential problem claims are established. The information will be organized into a report as well as a database for analysis.

**Benchmark Claims Performance**

Other carriers that would serve as potential contacts for benchmarking candidates, include information. These include:

- Medicare
- Transfer State (Maine)
- Blue Cross Blue Shield of Michigan
- Other Private Carriers – e.g., Delta Dental
- Other State Medicaid Programs

Contractor will first work with the state to identify those operational metrics to be the basis of comparison for benchmarking purposes. For example, claim 'latency,' that is, the length of time from claim arrival through disposition, may be such a metric. Or, perhaps, probability of pending, may serve as such a metric. Clearly, benchmarking metrics will need to be selected that are constant across disparate systems and operations. Using these chosen metrics, the Contractor will contact these payers for corresponding metrics for their systems and operations information. The Contractor will also pursue other Medicaid statistics from CMS with the objectives to identify any states which CMS perceives as having truly outstanding operational performance. Once information is gathered the Contractor will perform a comparison analysis against other processors carrier information.

**Perform Analysis**

The purpose of the task is to identify problem areas and areas for operational improvement. For the problem areas contractor will perform additional data gathering to review pend codes and denial codes to determine if there are any errors that appear to be the result of poor training, poor or complex policy, or confusing directions in the Departments correspondence to the providers. The Contractor will convene a work group to review the information to develop recommendations.

Also if there are significant benchmark variances with other carriers, then Contractor will contact the carrier with "best practice" to determine if there is operational differences which contribute to the "Correct Claim" rate. These insights will be shared with the task group and analyzed for impact on Michigan Medicaid's policies and procedures. High payback areas will be recommended to the Steering Committee.

**Analyze Current Payment Systems**

To simplify claims filing for the providers and simplify crossover claims processing between the Department and MDCH, the State has an objective of aligning its claims processing and payment processing rules with the Medicare rules where possible. Currently this objective should simplify claims filing systems for the providers and simplify crossover claims processing between the Department and MDCH. There are currently two major CMS initiatives that are being investigated by the Department.

1 In November 2004 the Centers for Medicare & Medicaid Services (CMS) announced a new prospective payment system (PPS) final rule for inpatient psychiatric facilities (IPF). The new system implements a per diem prospective payment system versus the current TEFRA system, which is a cost basis system. The final rules require that psychiatric facilities providers, with a September 30 fiscal year end, bill CMS using the new system rules effective October 1, 2005. The new rule affects three of the six State Mental Health Facilities.

Key components of the changes include:

- Facilities would bill a daily rate for the duration of the patient's stay.
- The rate would increase or decrease based on Patient Characteristics (diagnosis-related groups [DRG's] for principle diagnosis, co-morbidities [multipliers based on additional diagnosis], and length of stay [decreases the longer the stay], and Electro convulsive Therapy).
- The base rate can also vary based on facility characteristics (Teaching, rural or urban).
- The final rule indicated that the new system should have a 13% increase in payments to Government hospitals.

2. When Medicare implemented its Ambulatory Payment Classifications (APC) -based hospital outpatient prospective payment system (OPPS) four years ago, a rapid diffusion of this or similar payment systems into the commercial sector was expected.

Many state Medicaid programs, Blue Cross plans, and commercial insurers had piggybacked on Medicare's success with inpatient DRGs and had achieved cost savings on inpatient services by implementing some variation of DRG-based reimbursement.

Faced with rapid increases in outpatient spending, commercial payers were expected to view the Medicare OPPS as an attractive option for controlling costs. In reality, APC expansion beyond Medicare has been limited.

A key obstacle for commercial payers has been the number of Medicare-specific coding/billing requirements incorporated into this outpatient payment system. In addition, the APC-based OPPS, as implemented by Medicare, is a complicated and dynamic system that changes quarterly.

With Medicare constantly striving to improve the system, no one has had the time or resources to become an expert in its workings. This article will help payers recognize the benefits — and challenges — of adopting OPPS or some variation of APC-based reimbursement. A recent article in the January 2005 edition of Managed Care indicated some of the challenges that will face Michigan Medicaid.

Payers are finding that implementing an outpatient PPS based on Medicare's APCs and payment rules is more difficult than implementing an inpatient PPS based on DRGs. On the inpatient side, a single DRG is assigned to each patient discharge (as compared to outpatient visits, where none, one, or many APCs may be assigned); DRG payment rules are relatively straightforward; Medicare updates the system annually and updates are well-documented; and the system is based on standard coding and billing requirements. It is generally possible for commercial payers to implement a DRG-based inpatient PPS using Medicare rules. Variations from Medicare rules are generally operational and affect choices such as which set of DRG rules to implement, effective date of changes, differences in outlier policy and payer-specific weights, and conversion factors.

On the outpatient side, it is not practical to simply adopt Medicare's OPPS and payment rules. There are a number of issues in the Medicare system design that must be addressed in adapting the Medicare OPPS to a non-Medicare population. These are summarized in "Issues to Address Adapting the Medicare OPPS to a Non-Medicare Population" below.

**Issues to address in adapting the Medicare OPPS to a non-Medicare population**

**Issue & Description**

- Scope of the OPPS — how to deal with facilities not included in the Medicare OPPS or treated specially
- APCs are not all inclusive — how to pay for outpatient hospital services not assigned to APCs
- CPT coding issues — how to deal with Medicare's requirement to bill for some services using HCPCS Level II codes, rather than CPT-4

- Inpatient only procedures — whether and how to pay for procedures that Medicare feels should only be paid in the inpatient setting
- Payment policy APCs — how to deal with those Medicare APCs that are not clinically based, but implement Medicare payment policies
- OPPS operational and billing issues — Medicare software incorporates policy decisions
- OPPS implementation may bring financial risk
- Scope of the OPPS — how to deal with facilities not included in the Medicare OPPS or treated specially

Contractor will work with MSA to help the State form a multi-discipline team comprised of policy analysts, claims analysts, and information technology analyst to investigate the implications of moving to the new Medicare payment systems.

Contractor will perform as work groups tasked to deal with the primary issues surrounding the implementation. These include identifying 'outliers,' which are known variances between Medicaid's and Medicare's payment rules. Such items include:

- Medicare policy by excludes or financially protects certain classes of hospitals. The purpose of this analysis is to identify providers that fall into this group.
- Medicare does not pay for all hospital outpatient services using the APCs**.** Many services are paid under a fee schedule, and are not assigned to APCs, including clinical laboratory services and therapies (payment status A). Services not covered by Medicare (payment status B or E), packaged services (payment status N) and "inpatient only" procedures (payment status C) are also not assigned to APCs. Michigan Medicaid must identify all services not assigned to APCs.
- Medicare does not recognize many valid CPT-4 codes. These codes have been assigned a payment status indicator of E, indicating that Medicare expects the service to be billed using an HCPCS Level II code, which generally reflects a greater level of specificity. For example, Medicare requires billing of HCPCS code G0001 (routine venipuncture for collection of specimens), rather than CPT-4 code 36415 (collection of venous blood by venipuncture). Michigan Medicaid will need to identify these codes and their counterpart in the MMIS system.
- Medicare has identified a number of procedures that are only paid in the inpatient setting. Michigan Medicaid will need to identify these procedure codes.
- Not all APCs are clinically based. Some APCs were created to implement Medicare payment policies on observation services, partial hospitalization services, new technologies, and high cost drugs and devices.

This task will result in a defined set of codes/issues for which data must be gathered.

**Gather Historical Data**

The purpose of this task is to gather historical information related to the codes and issues. The data warehouse will serve as the data source base for historical claim information. Using the last three years of data, contractor will query to identify the number of claims by code, the associated dollars, and other information such as errors and adjustments. This information will be formatted in a report and in a database for further analysis by the group.

The team will also review historical claims in the context of the new rules to identify coding and billing issues, identify potential operational difficulties, and simulate payments under the OPPS. To do this the team will edit, group, and price historical claims using Medicare rules and software.

The team will also apply the Medicare OCE to these historical claims and examine the frequency and reasons for edit failures.

The result from this task is a report which documents the historical data and presents it in a format for further analysis by the work group.

**Analyze Data and Develop Recommendations**

During this task the work group will analyze the previously gathered data to develop recommendations. This analysis will include:

- From an operational purposes perspective, the Contractor will use historical data to measure the percentage of hospitals that have special OPPS payment status, as well as the volume of claim dollars they represent. Use this information to recommend whether to extend "special" status to these hospitals or to fold these hospitals into the OPPS.

- Examination of those services not assigned to APCs, including inpatient-only procedures, non-covered services and valid CPT-4 codes not recognized by Medicare.

- Look at the volumes and dollars they represent and simulation of alternative payment strategies, including assigning an APC, custom fee schedules, or payment as a percentage of charges using historical volumes and dollars of appropriate claims.

- Evaluation of criteria for observation reimbursement as well as for partial hospitalization (mental health) payment

- Determine what contract or policy requirements are needed to support system implementation.

- Assess and document the ability of the new MMIS claims processing system to handle the OPPS implementation. Determine exactly what software is required and how it will be acquired, integrated, and tested. Determine just how much custom programming will be necessary to implement required changes. Determine what, if any, changes are needed to warehouse OPPS data. Potential changes include modifications to handle deviations from Medicare's OCE system, Provider Identification Number, Lumped physician charges, and Medicare billing rules.

**Develop Implementation Strategies**

The work group will work with the PCO, the MMIS Contractor Project Manager, and the DCH Project Manager to investigate implementation strategies. Included in the analysis are:

- Communication Needs to the provider community
- Impact of change on provider community
- Degree of change from current polices and new policies
- Implication of changes on the MMIS implementation
- Resource requirements for implementation
- Costs

Based on this information, the group will develop several implementation alternatives for review by the Steering Committee.

**Develop Task Report**

The project team will organize its findings into a final report to the steering committee. The report will be organized into the following topics as follows:

- Michigan Medicaid Operational Statistics and benchmarks against other carriers
- Implications of implementing Medicare payment systems
- Target areas for opportunity
- Recommendations for implementation
- Budget

- Timeframe
- Policy decisions
- Impact on Provider community
- Impact on MMIS implementation
- Communication needs
- Training Plan
- Other considerations

Based on feedback from the Steering Committee, Contractor shall incorporate Steering Committee decision results into the scope of the project plan via the Change Request Procedures outlined elsewhere.

**Requirements Validation**

The purpose of this task is to validate the requirements established for the MMIS replacement project.

The task serves many purposes not the least is to begin to integrate the development team with the user community. The most import objective is to validate the requirements and amplify where needed to ensure mutual understanding between Michigan Medicaid and the MMIS Implementation Contractor. This includes to discovering 'latent requirements,' that is, requirements that may not have been revealed in the states due diligence process preparing the requirements.

Contractor's systems integration experience suggests that some number of such requirements will be uncovered, probably in the range of 1-3% by number of the total requirements inventoried in the ITB. It is absolutely crucial that these latent requirements be uncovered at this stage. Industry experience tells us that the cost of incorporating requirements into software rises dramatically the later in the process it is done. Any such 'latent requirements' will be introduced into the Change Control systems for appropriate review and action. The final document will form the basis of scope for the project and will form the basis for change orders.

**Approach**

Care must be taken in this phase of the project. The Department spent the better part of the past year defining requirements. It will not be beneficial if the user community views this task as an opportunity to revisit requirements. Rather it must be viewed as an opportunity to clarify and document the requirements. The validation process will occur through a series of JAD session between the contractor, key Michigan Medicaid staff, and key DIT support staff. Each meeting will need to be led by a facilitator to encourage participation and discussion. The facilitator will come from the contractor's team. Also each meeting should be structured with a defined objective, outcome and process. Table below provides an overview of the meeting process.

## Meeting Management Best Practices

| Meeting Management Best Practices | | | |
|---|---|---|---|
| **Expectation** | **Knowledge** | **Activities** | **Preparation** |
| • Participation is expected.<br>• Be open and honest.<br>• No idea is a bad idea.<br>• Respect the views of others.<br>• Agree to disagree.<br>• Do not verbally attack other participants.<br>• Use headlines to enhance clarity.<br>• Paraphrase complex ideas to enhance understanding.<br>• Express problems and concerns as "how to…." or "I wish…."<br>• Tell no war stories.<br>• Participate in one conversation at a time.<br>• Leave old baggage at the door.<br>• Be on time.<br>• Bring no hidden agendas. | • Understand roles, responsibilities, and focus of session leader.<br>• Understand tools for making decisions (brainstorming, RACI, fish diagrams, and so on).<br>• Create effective physical environment for groups, including facilities and tools.<br>• Understand the stages of group dynamics.<br>• Demonstrate skills, techniques, and behaviors to lead a group to consensus. | • Introduction<br>• Kickoff<br>• Approach, including:<br>• Identify problems<br>• Determine possible solutions<br>• Determine possible solutions to implement<br>• Identify constraints<br>• Review decisions<br>• Wrap up discussion<br>• Review issues and concerns.<br>• Follow-up activities | • Identify the owner.<br>• Identify the participants.<br>• Decide on the purpose, scope, and objectives of the meeting.<br>• Identify the meeting constraints.<br>• Create the agenda.<br>• Establish the meeting time and location.<br>• Send meeting agenda in advance. |

Meeting notes and agreements will be documented and distributed to the meeting participants for review and approval. These items will also be incorporated in the Requirements Document which will be maintained by the PCO. Once the JAD sessions are complete the Requirements Document will be finalized and distributed for review and approval.

It is to be expected that there may be disagreements within the Team on the definition of a particular item and whether it is in the current scope of the project. These items will be identified as issues and follow the documented Change Management and Issue Resolution Process as appropriate.

### Plan and Schedule JAD Sessions

Contractor will meet with the MMIS Implementation Contractor Project Manager and the DCH Business Lead to schedule the JAD sessions. The sessions will be defined in terms of topics to be discussed, objectives and expected outcomes, meeting attendees and their roles, and material needed in preparation for the meeting. These individuals will develop an overall JAD schedule. Contractor will establish the calendar, arrange for facilities, and ensure the meeting is on each participant's calendar. Each of the organizational units must emphasize the importance of that participants attend the session, be prepared, and participate. To that end, contractor will recommend that JAD session participants be provided training on the JAD process prior to participating.

### Conduct JAD Sessions

Contractor will facilitate the meetings and record minutes from the meeting. Agreements and understanding reached at each meeting and associated requirement will be documented as to agreements and understanding. The results of the meeting will be distributed for review and comments within two working days of the meeting.

### Update Requirements Document

The Requirements Document will be under the control of the contractor team. After each meeting has been held and agreements reached the document will be updated with the meeting results.

**Distribute Requirements Document for Approval**

After the last session is conducted and documented, the Requirements Document will be distributed for final approval. The approvers will be determined as part of the Project Control Procedures developed during the Project Planning Phase.

**Change Requests**

Contractor's Change Request process and tools are summarized briefly here.

First, Contractor understands that project scope can change for any number of reasons, including:

- External Factors, such as legislative mandates, court decisions, policy initiatives, technology advances
- Internal Factors such as latent requirements, unplanned complexity, delay from a management perspective it is important that changes in scope be identified and evaluated in terms of their effect on project schedule, cost, and functionality. That requires a formal disciplined process that encompasses the following steps:
  - Identification: the change in scope needs to be recognized, described, and made visible to project and executive management
  - Evaluation and Adjudication: the potential scope change has to be understood and legitimized, that is, is it truly a change in scope?
  - Quantification: what is the size of the scope change in terms of effort, cost, and schedule? What is the 'ripple' effect on other project activities, both direct and indirect?
  - Implementation: Once approved, when can the change in scope be implemented?

Contractor's Change Management process applies a structured methodology and toolset to this activity.

**Issue Resolution**

Issues arise and problems occur during the course of the project. Issues may impact project schedules, the nature and quality of a project outcome, or the internal working of the project team. Issue management resolution is the responsibility of the contractor's Project Change (Release) Manager. Issues may be identified at any level of the organization, including the MMIS Steering Committee, the DIT/DCH Project Sponsors and or the System Integrator/PCO office. Issues should be resolved at the lowest organization level possible. An issue that cannot be resolved at any particular level of the organization must be escalated to make sure the issue is brought to the attention of appropriate parties and resolved. Contractor's recommended Issue Management Process is discussed below.

**Approach**

Early issue identification is often the key to achieving project schedule, budget, and quality objectives. The visible issues normally relate to issues identified in JAD sessions, deliverable reviews, or testing activities. Others, which may not be as visible, may result from:

**Reoccurring problems between project teams**

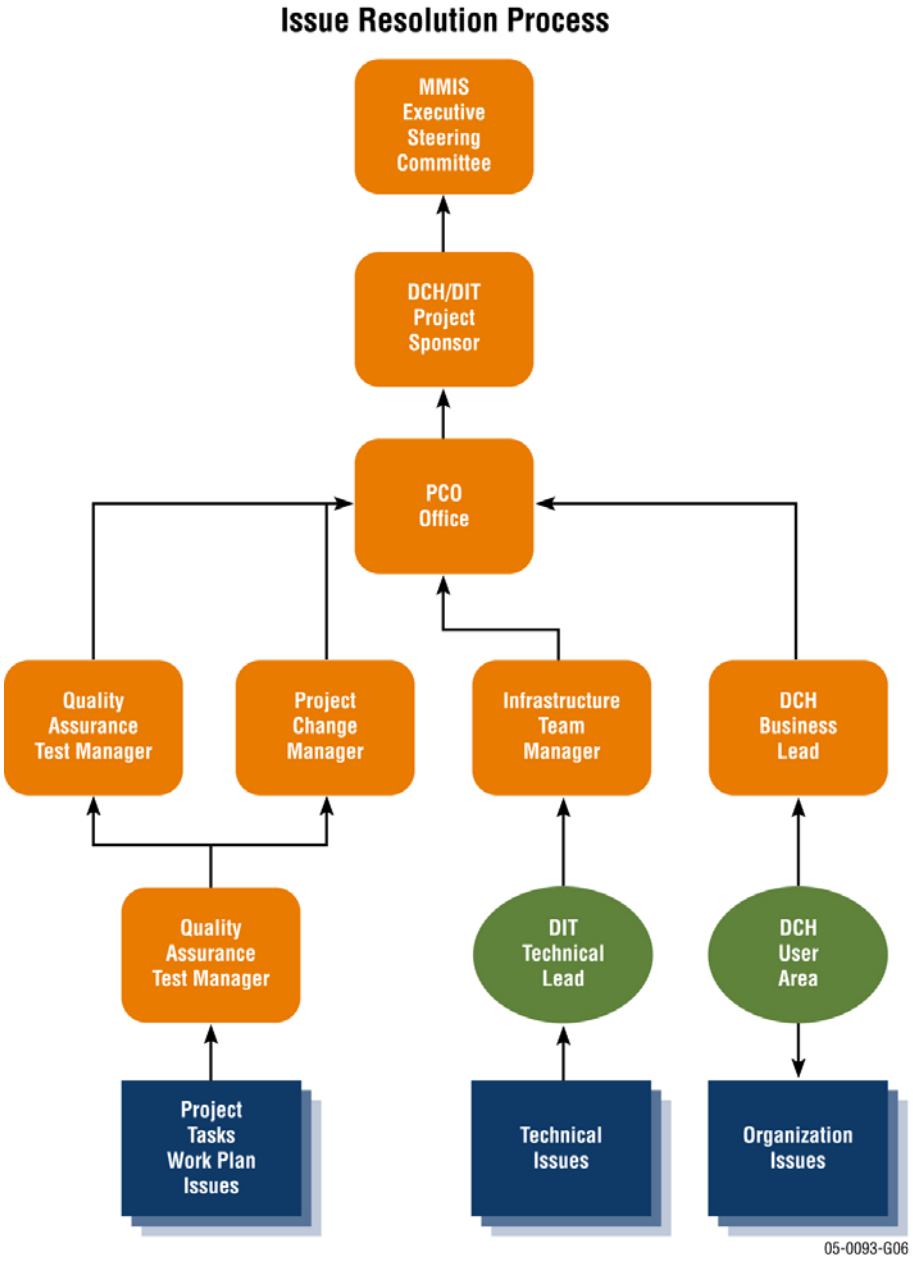
- Problems are identified but no one assumes responsibility
- Discrepancies between verbal status, metrics, or repository status
- Changes in work patterns around a project deliverable
- Reports, agreements, or issues identified in meetings which may impact other teams or deliverables.

These items should be brought to the appropriate lead to determine if an issue truly exists. The leads for each issue type are organized as follows:

- Technical issues – All technical issues should be brought first to the DIT technical manager for resolution. The escalation process should flow through the Infrastructure Team Manager and the PCO office.

- Organization Issues – Organization issues should be first brought to the DCH user area impacted by the change. The escalation process should flow through the DCH Business Lead and then to the PCO office.

- Project Tasks and Work Plan Issues – Any issues which relate to the review and approval of project deliverables, project tasks, resource assignments, or schedules should be brought to the DDI Project Manager. The escalation process would flow either to the Quality Assurance/Test Manager or Project Change (Release) Manager depending if the issue relates to deliverable approval or schedule or scopes. The issue would then flow to the PCO office. The issue resolution/management process is shown in Figure 4-20.




**Issue Management Process**

Once it has been determined that there is an issue, contractor will follow a formal issue management process. The issue is entered into the Issue Tracking Tool.

**Escalation Process**

Contractor will use a combination of formalized processes and sound professional judgment so that data driven decisions are directed to appropriate decision-makers. Often, project level decisions can be resolved by the leadership of the project. In some instances, it becomes necessary to escalate issues for resolution to the Steering Committee and Executive sponsorship. Additionally, even when issues can be resolved by the project team, issues are escalated when visibility to the executive leadership is appropriate.

Contractor will follow the guidelines, presented in Table 4-16, in the issue escalation. In addition all issues will be reported as part of the MMIS Project Status Review.

**Issue Management Escalation**

| Escalation Category | Escalation Response |
|---|---|
| **General** | |
| Aged or more than two weeks late | Issue is escalated to immediate manager. Issue will not be escalated further unless it fulfills one of the subsequent requirements. |
| Cross organizational issue cannot be resolved | Issue is escalated to the management level immediately above the roadblock. |
| **Schedule Implications** | |
| Major milestone is threatened | Issue is escalated to PCO. |
| Release is threatened | Issue is escalated to DCH/DIT Sponsors and the MMIS Steering Committee |
| **Scope Implications** | |
| One or more minor functions within major deliverable are threatened | Issue is escalated to PCO |
| One or more significant functions within major deliverable are threatened | Issue is escalated to PCO |
| One or more major deliverables are threatened | Issue is escalated to Executive agency and DIT management. |
| **Budgetary Implications** | |
| Minor budgetary impact | Issue is escalated to DCH/DIT Sponsors and the MMIS Steering Committee. |
| Major budgetary impact | Issue is escalated to DCH/DIT Sponsors and the MMIS Steering Committee |
| **External Visibility Implications** | |
| Visible external to the project but still within the agency | Issue is escalated to PCO |
| Visible external to the agency but still within the State | Issue is escalated to DCH/DIT Sponsors and the MMIS Steering Committee |
| Visible external to the State | Issue is escalated to DCH/DIT Sponsors and the MMIS Steering Committee |

## Quality Assurance and Testing

Testing

The MMIS implementation project will have three system processing environments at the State site:

- **Development** – This environment will be under the control of the DDI MMIS Contractor and will be used to develop and test new software functionality

- **Quality Assurance** – This environment will be under the control of the State and will be under tight configuration management control. This environment will be used to final test the system before migration to production. All user acceptance testing will be conducted in this environment.
- **Production** – This environment will be under the control of the State and under tight configuration management. No testing should be performed in the production environment.

**Contractor's role** differs in each of the environments. Specifically:

- **Development** – Contractor will review the outcomes of test results performed by the Contractor before migrating a release to the QA environment. The review will focus on the completeness and adequacy of the testing.

- **Quality Assurance** – Contractor will provide complete oversight and direction to testing in this environment. This will include the scheduling and coordination of testing, directing test case preparation, managing the testing process and managing the problem resolution process. Contractor will coordinate the approval of releases from the QA to production environment.

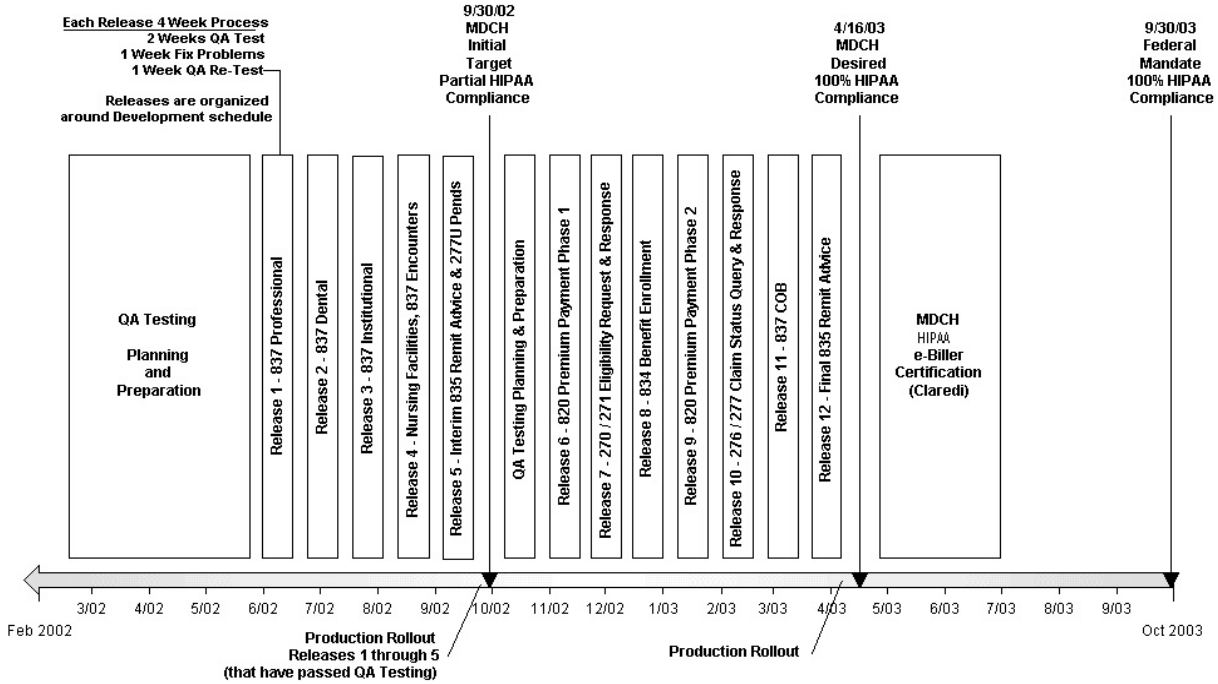
- **Production** – Contractor will coordinate the migration of the new releases to the production environment.

The testing approach recognizes that system implementation will likely occur in a phased manner. Target dates for the acceptance testing activities are as shown in the table below:

**Key Milestones Dates**

| Milestone Event | Planned Date |
|---|---|
| Web Portal | 6 months from signing of MMIS Implementation contract. |
| Provider Subsystem | 12 Months from signing of MMIS Implementation Contract |
| Enhanced document management system | 12 Months from signing of MMIS Implementation Contract |

Based on the Contractor's experience working with the Department and the complexity of the system, the Department may elect to implement the Core MMIS in phases also (for example, by certain claim types or provider types). If so, the implication is that the test planning will need to support the concepts of releases which may include new functionality as well as problem fixes for previous releases. Figure below shows the concepts of release planning for testing used in the HIPAA project.




**Release Testing Timeline**

## Testing Objectives

Quality assurance testing will have the following objectives:

- Validate the accuracy of the transaction processing for each of the input transactions
- Validate the accuracy of output transactions (e.g. 835 and 277U) as well as output reports
- Validate that the system outputs can interface to the external State systems (e.g., Treasury, MAIN, Central Cashiering)
- Validate the performance of the system – throughput, batch windows, response time with full load
- Validate supporting procedures (e.g., Call Center, Case tracking, pended claims resolution, cost avoidance, third party liability)
- Validate the ability to interface with Business Partners – 835 outputs, enrollment files for health plans, etc.
- Validate that the system achieves operating objectives (e.g. reduce pended claim backlogs, etc.)

## Test Approach

In order to achieve the above quality objectives and to achieve the aggressive implementation schedule contractor proposes the following:

**Create a robust QA environment** – the production environment should replicate production. The HIPAA project provides a good profile of such a robust environment. For this project, the team used the following data:

- Providers – 100% of production
- Recipients – Large percentage of production
- Codes – Large percentage of production
- Claim History – Determined during planning e.g. 1 year of history
- Pended Claims – Determined during planning

Because the data is date dependent and could become stale, a mechanism for 'refreshing' the data must be developed and implemented. This could take any of several forms, including forcing a 'virtual' system

date, reloading data frequently, running query utilities to change date fields in the test data, etc. A configuration management plan must be established for the QA production environment because the data is date dependent and could become stale

**Use the Department's Test Data Generator to Source production claims** – The Contractor's partner, Kunz, Leigh & Associates, developed a test data generator for the HIPAA project that proved very successful and useful. The system allowed the testers to create high volumes of claims which targeted specific provider types, procedure codes, or claim types. This data was sourced from production files in MMIS. Contractor proposes to use this system for the new MMIS because the high volume claims can test capacity and processing issues, the team can test Michigan specific programs such as MiChild, and test cases can be established to test problematic transactions.

Contractor shall create a controlled and restricted set of baseline test cases for new releases.

Baseline test data and cases should be established to detect regression effects new software releases. These test cases should be processed with each new release to ensure that the new release did not negatively impact other parts of the system. In conjunction with good configuration management practices this can greatly enhance and protect the integrity of the production environment. The Contractor also recommends that procedures be tested as well as software. The new system will involve the implementation of new policies and procedures along with the new software. These procedures should be followed during the testing process. Also testing should be performed in the user areas where possible to validate network performance connectivity and security.

**Involve External Business Partners** – The new system could result in changes to outbound transaction formats or reports (Remittance Advices). Working relationships with key Business Partners should be established and exercised during the testing activities. B-2-B testing should be performed with BCBS of Michigan, Medicare, large service bureaus and selected providers. This will allow the Department to identify and correct problem areas before production operations.

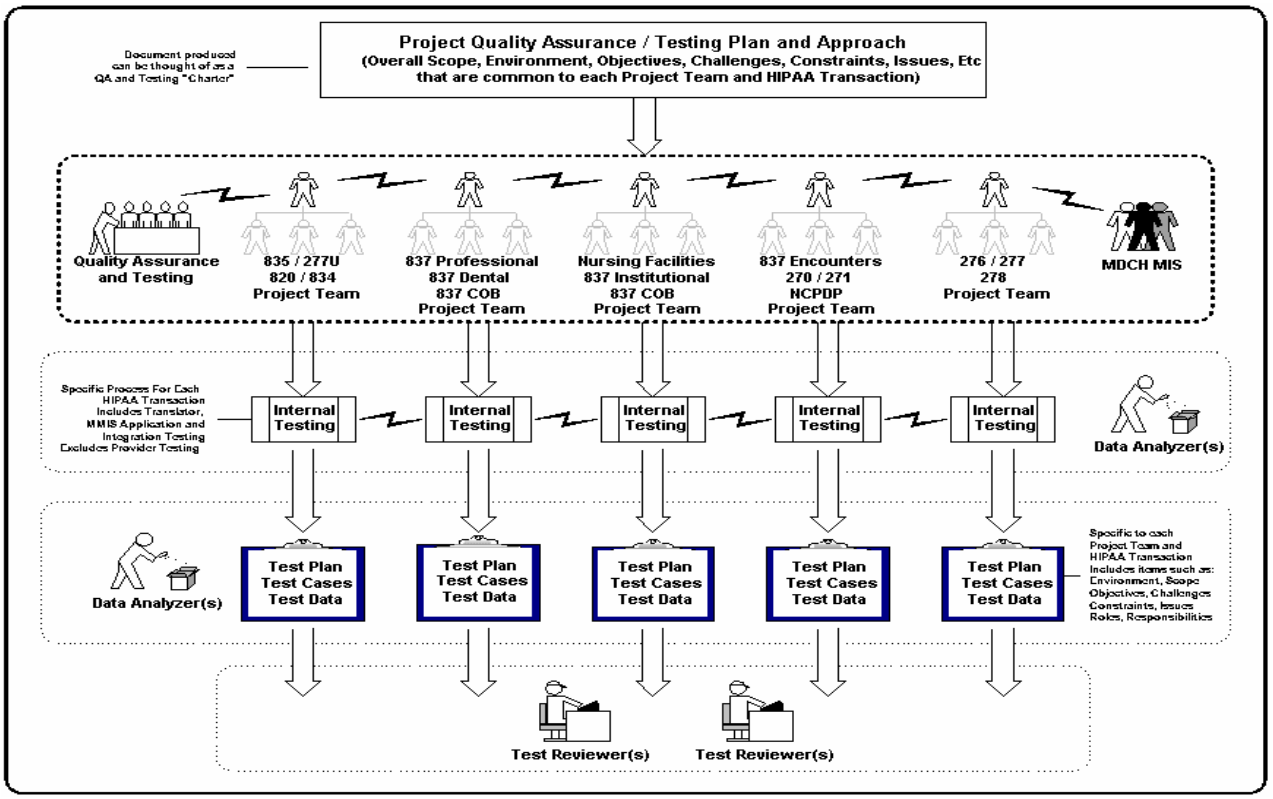
**Test Early and Test Often** – Testing often is put off until the last moment and is often impacted by delays in development. Delays put pressure on the implementation date causing important tests (e.g., capacity or load testing) to be skipped or inadequately done. Incomplete or inadequate testing will leave errors that will negatively impact production operations and service levels to the provider community. The Contractor recommends that conversion and testing begin early, in parallel with development, so that there is adequate time for problem resolution and correction.

The Contractor cannot overemphasize the need to establish acceptance criteria that must be satisfied in order to implement software into Production, and that the Project adheres rigorously to those criteria. Since the existing MMIS system is operational and meeting the day-to-day needs of the Department, the quality of the new system should not be compromised in the interest of schedule.

## Testing Tasks

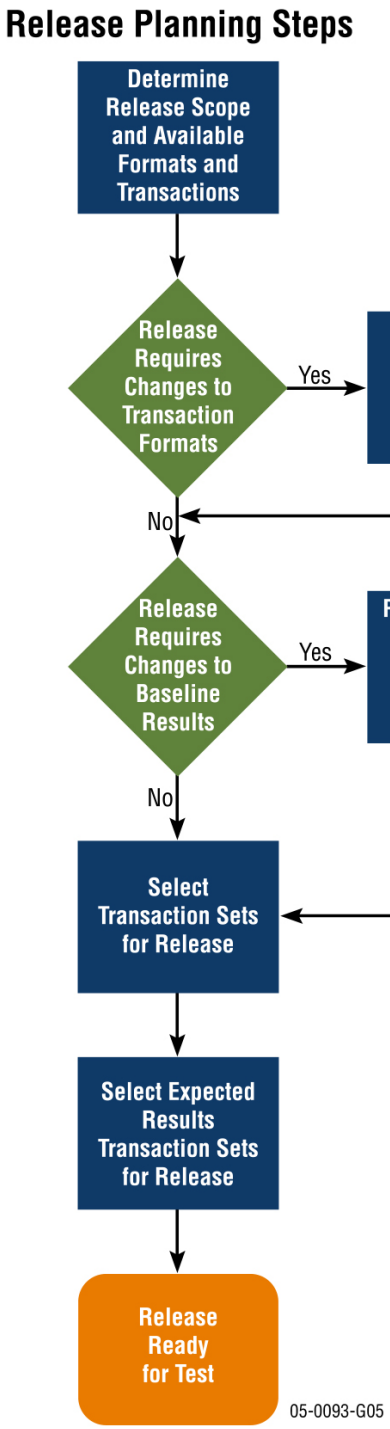
### Test Planning

Test plans will be developed around the implementation schedule finalized by the MMIS Contractor and the project team. Test plans and test cases and expected results will be developed for each release. Figure below provides an overview of the test planning for each release:




**Integrated Test Team Organization**

The steps describe below and illustrated in the figure below, are used to determine the functional content of each release. It must be done before the testing plan, test cases, and test data can be finalized.




**Release Planning**

### Create Test Environment

The test team will work closely with the data loading and conversion team to establish processes and programs for loading data into the test environment. This environment will have its own unique backup/restore procedures to support the testing activities.

### Perform QA Tests

The testers will perform the QA test and review the results. All test results are posted in the Test Tracker System and communicated to the contractor and the MMIS Implementation Contractor Team.
Regression testing will be performed on the test cases with problems until the system passes the test criteria. Note the QA environment is under configuration management disciplines. Changes to the environment will only be performed on a scheduled basis.

### Migrate Release to Production Environment

Once the user test team has performed and approved all test cases the software is migrated to the release planning team. Any outstanding problems are documented and incorporated into future releases.

### Quality Assurance

For each of the project deliverables listed in the table below, contractor will prepare mutually agreed acceptance criteria, and assure that the deliverable conforms to those criteria:

**Deliverables**

| Deliverable | Phase | Deliverable | Phase |
|---|---|---|---|
| Detail Project Plan | DDI, Transition | Document Management System Design | DDI |
| Electronic Project Library | DDI, Transition | Document Management System Test Results | DDI |
| Quality Management Plan | DDI | Document Management System User Training | DDI |
| Software Development Approach | DDI | Document Management System Documentation | DDI |
| Project Staffing and Facility Plan | DDI | Provider Subsystem System Design | DDI |
| Project Status and Risk Reports | DDI, Transition | Provider Subsystem Test Results | DDI |
| Documentation Standards Plan | DDI | Provider Subsystem Data Conversion | DDI |
| Equipment/Technology Acquisition Plan | DDI | Provider Subsystem User Training | DDI |
| Staff Training and Knowledge Transfer Plan | DDI | Provider Subsystem Documentation | DDI |
| Facility Security and Data Security Plan | DDI | Detail Design for Michigan MMIS | DDI |
| Business Continuity and Contingency Plan | DDI | Test Results for Michigan MMIS | DDI |
| Test Plans | DDI, Transition | Data Conversion for Michigan MMIS | DDI |
| Conversion Plan | DDI | User Training for Michigan MMIS | DDI |
| Turnover Plan | DDI | Documentation Michigan MMIS | DDI |
| Requirements Validation Document | DDI | MMIS Certification Plan | DDI |
| Detail System Design for MMIS Portal | DDI | MMIS Certification | DDI |
| Test Results for MMIS Portal | DDI | System Maintenance | Transition |
| User Training Report for MMIS Portal | DDI | System Enhancements | Transition |
| Web Portal Documentation | DDI | Final Turnover Report | Transition |
| | | Knowledge Transfer Report | Transition |

Contractor review of each deliverable will entail the following:

- Adherence to established standards
- Completeness – including integration with other project documents (e.g., System Design maps to requirements, test plans map to requirements)
- Conformance to acceptance criteria

Contractor will work with both functional and technical reviewers to finalize the review comments. Contractor will conduct joint sessions with key designated state staff to review the deliverables, capture substantive comments, and return the review results to the MMIS Implementation Contractor within the agreed-to time. When all discrepancies have been properly corrected the contractor will recommend approval by completing a **Deliverables Acceptance Document** such as the one in Figure below:

| DELIVERABLE ACCEPTANCE DOCUMENT | | | Tier |
|---|---|---|---|
| Deliverable Name: | | Deliverable Number: | |
| Project Manager: | | Phase: | |
| Signature: | | Delivery Date: | |
| SIGN-OFF REVIEWED | | | |
| Name: | Title: | Signature: | Date: |
| Name: | Title: | Signature: | Date: |
| Name: | Title: | Signature: | Date: |
| Narrative of Findings: | | | |
| Acceptor Disposition: | Approved | | Returned |
| Acceptor Name: | | Acceptor Title: | |
| Signature: | | Date: | |
| Acceptor Comments/Direction: | | | |

**Change Management**

The purpose of this task is to work with the State and the MMIS Implementation Contractor in the definition of new procedures, development of the associated procedure guides, communication of the changes, and the implementation of these changes.

Contractor will work with MDCH/DIT and the implementation team to introduce effective change management methods. Members of contractor's team are trained in the disciplines espoused by Conner Partners.

Contractor will work with the MDCH in the drafting and review of new procedures as necessary. Contractor will also work with the team to develop effective communication plans to staff and the provider community.

**Task 1- Independent Validation & Verification (IV&V) Services Deliverables**

Contractor shall monitor, control, and verify work progress and the quality of work level on the following deliverables in order to meet the project schedule and the overall project objectives. In addition, the Contractor will manage project risks by following appropriate procedures as defined in this contract whenever project schedules or overall project objectives are jeopardized.

This section provides Table below, which lists the Task 1 deliverables.

**Task 1 Deliverables**

| Task 1 Deliverables | Specific MMIS System Project Implementation Contract Requirements, Deliverables or Objectives | Approvals |
|---|---|---|
| Validated Requirements Documented | • Requirements documented and updated into the Requirements Document<br>• Requirement Document loaded on central repository of Project Documentation and placed under configuration management<br>• Key stakeholders for each functional area approve the document | MMIS Steering Committee |
| Document Change Requests | • Change request clearly documents scope of the change with accompanying benefits<br>• Requests document impact on project schedule, budget, and resources<br>• Request is reviewed and approved by the functional and technical area stakeholders | MMIS Steering Committee |
| Validated and Accurate Deliverables | • Deliverable reviewed and approved by functional and technical area stakeholders<br>• Deliverables placed in project repository and subject to configuration management<br>• Deliverables have been incorporated into testing activities | MMIS Steering Committee |
| Documented Business Procedures Related to the New MMIS | • Procedures clearly document impact on policy, eternal providers, and internal users<br>• Procedures are accompanied by an implementation schedule which aligns with an MMIS release schedule<br>• Deliverable reviewed and approved by functional and technical area stakeholders<br>• Deliverables placed in project repository and subject to configuration management<br>• Deliverables have been incorporated into testing activities. | MMIS Steering Committee |
| System Analysis Task Report | • Report identifies strengths and weaknesses of current payment methodologies<br>• Report establishes the specific differences of Medicare's APC and current Medicaid processing and the implications to the new MMIS, the State and Providers<br>• The report provides alternative implementation strategies and recommendations<br>• The report is approved by key functional and technical stakeholders<br>• Report recommendations have been incorporated in the Project Work Plan | DIT and DCH Project Sponsors |
| Documented Issues | • Each issue is documented in terms of impact on schedule, quality, costs, and resources.<br>• The issue provides a specific resolution which is approved by key functional and technical stakeholders | DIT and DCH Project Sponsors |
| Software Test Assessment | • Software test plans are reviewed for completeness and coverage.<br>• Software testing is managed effectively; comprehensive test scripts and data are prepared beforehand; test protocols are performed completely; test results are recorded, analyzed, prioritized and managed through a correction process; software is not promoted until prior-approved quality standards are achieved. | DIT and DCH Project Sponsors |

## Task 2 – Project Management Control Office Services

**Objectives:**
Contractor will follow the Project Management Methodology (PMM) adopted by the State. This methodology includes the following standard project phases:

- Initiation
- Planning
- Execution
- Control
- Closeout

The MMIS project will rigorously follow the PMM to manage on-time delivery of quality application releases. More detail on the State PMM can be found at www.michigan.gov/projectmanagement.

Contractor shall provide project management support to the State in the form of project administration, scope change control, release planning, release management, risk management, issue management, production ticket assessment, performance metrics for the development and implementation Contractor, and participation in project strategy and direction as requested.

Contractor shall also provide assistance to the State in the form of independent oversight, monitoring, and reporting on activities and metrics critical for on-time delivery of quality information technology services to meet the needs of DCH and DIT. The contractor is responsible for creating and maintaining detailed project schedules that support the agreed upon project scope, milestones, and deliverables. Once a project plan is resourced and base-lined, resources (State and Contractual) are required to report effort against the plan. The contractor uses this information to track progress against the plan, determine earned value calculations, and derive weekly status reports.

Contractor shall provide project management assistance to the State and its development and implementation Contractor through performance of the following specific tasks:

1. Develop and manage project schedules and application releases – Work in tandem with the MMIS Development and Implementation Contractor to create system lifecycle schedules and plans that are logic and resource driven. Maintain the schedules to manage releases and scope.

2. Manage resource pool – Using project management tools, align resources to application releases and tasks, identify number of resources needed, identify resource conflicts, and assist in leveling resources across tasks and/or releases. This task does not include staff supervision or direct assignment of individuals to tasks. These specific responsibilities (staff supervision and task assignment) are the responsibility of the Development and Implementation Contractor and/or the State.

3. Maintain Scope Change Control and Issue Resolution processes – Provide structure to manage changes in scope. Document, and escalate issues. Facilitate cross-functional team communications for timely issue resolution.

4. "Time Tracking – Support task level of effort and status tracking, determine where resource effort is spent, gather and document data to enable increased estimating accuracy for future software releases based on historical data.

5. Production Ticket Assessment – After the new system is in production and for the duration of the Contract, support the tracking of production tickets from the users and manage the ticket assessment process. Facilitate and coordinate the prioritization and integration of business requirements into maintenance releases. Facilitate weekly meetings to assess open tickets."

6. Release Planning – Support the MMIS Release Planning process by close coordination with the Development and Implementation Contractor in selection, research, and preliminary planning of application releases. This effort includes input from production ticket assessment, Executive Leadership, and the PCO Technical Control Team, as well as groups representing the end users.

7. Communication – Identify appropriate information requirements and their flow, and ensure individuals at all levels receive appropriate information on scheduling and planning in a timely manner. Establish meeting schedules and agendas. Facilitate release and status meetings. Coordinate communications across stakeholders and among Contractors.

8. Performance Monitoring - Maintain disciplined process for monitoring release deliverables and schedule milestones. Update and produce project scorecards. Monitor and publish earned value and other performance metrics. Report program status and milestones on a timely basis. Facilitate action plans for solving progress-related obstacles.

9. Provide support and assistance to other related projects as resources permit.

10. Interface with DCH, DIT, MMIS Development and Implementation Contractor, and other groups as necessary.

**Task 2: Contractor Approach to Providing Project Management Control Objectives**

The management team for the project will be jointly composed of the State, the contractor and the MMIS Implementation contractor. Contractor is charged with implementing the agreed-to project management methodology conforming to State project management methodologies (PMM).

Contractor's team will provide independent project analysis and insight, driven by objective metrics that are reliable indicators of project status. Issues will be proactively managed to prevent their escalation to risks, and risks will be proactively managed to prevent their interference with project success. Comprehensive and detailed project work plans and schedules based on published basis of estimate (BOE) algorithms will be constructed that accurately reflect project milestones for the required work. Task completion measures will be based on quantitative measures of hours remaining rather than on estimates of percentage completed. Status reports on issues, risks, and quantitative status metrics will serve as the basis for candid project reviews. Contractor understands that the major purpose of project management is to provide direction when things do not go necessarily as planned.

**Development and Management of Project Schedules and Application Releases**

Contractor will work in concert with the MMIS Implementation Contractor and the State project manager to create project work plans and schedules that address the deliverables identified in the master project plans. The Contractor will develop work plans and schedules that track to the appropriate phases of the system lifecycle. In addition to addressing the requisite deliverables, the work plans and schedules will be based on the published BOE algorithms and reflect actual resource availability and "work to do." Progress updates are captured through weekly timesheets in the Time Tracker system which captures hours expended by work breakdown structure (WBS) task combined with weekly task status reports, one for each open task of the work plan (task status reports are described in Section 4.4.3.1). A key value captured in the task status report is the number of hours remaining to perform the task. Any variance between budgeted task hours and actual task hours will be captured and reviewed with the appropriate team leads, with corrective actions taken as needed. The Contractor will also work with both the State and DDI Contractor to ensure the suitability of personnel assigned to the task, identifying resource and/or skill shortfalls and developing sourcing plans to address any such shortfall.

To support project transparency and to verify that the State can access critical project data, all project schedules will be accessible to authorized staff.

Management of Resource Pool

After validating the estimates and skill requirements provided by the MMIS Implementation Contractor, Contractor will develop a resource plan for each release. In collaboration with the MMIS Implementation Contractor and the State, the release resource plan will be evaluated against the resource needs of other releases and the skill profiles of available personnel. Contractor will monitor actual resource allocations against this plan. Resource under-allocation or over-allocation issues will be reviewed and resolved in collaboration with team leads and project management personnel. Misallocation of personnel to tasks outside of the approved work plan will be reviewed and resolved with the State and the development and Implementation Contractor."

Maintenance of Scope Change Control and Issue Resolution Processes

The Contractor will establish a proactive issue and change control processes for the project, using the State's Tracker tool. This tool supports the identification, tracking, and reporting of issues and change controls by release, assigned personnel, status, and level of escalation. This tool generates automatic email notifications about new issues, assignments, and changes in status.

New issues can be entered by any project team member or by the contractor personnel who review all new issues and assigns them to the appropriate staff member along with date for resolution. Issues are reviewed at regularly scheduled Issue Management and Change Control meetings. As necessary, issues will be escalated to the appropriate management level along with an assessment of the severity of and priority for resolving the problem.

Contractor will manage the change control process. New change control items can be entered by any project team member, including contractor personnel. For each new item, the MMIS Implementation Contractor will be asked to estimate the level of effort, the cost, the work plan and schedule impact, and the resources required to incorporate the change. The Project Management Control team will validate these estimates. Validated change items will be reviewed during weekly Change Control Board (CCB) with the State and the MMIS Implementation Contractor.

Issues and change controls will reside in the Issue Tracker tool and will be available to authorized personnel. If the project envisions creating a project website, the Contractor recommends that the issues information be available through that vehicle.

Time Tracking

The Contractor understands that if Time Tracker (a customized web-based time reporting system) is used it will generate a weekly timesheet for each staff member working on the project. The timesheet includes project assignments from the project work plan and schedule that support each release and base operation activity.

Team leads and managers will review each team member's timesheet before submission. As part of that process, team leads and managers will prepare task-level status for each task. Contractor personnel will review the status reports and apply the reported status to the schedule. Then, Contractor staff will develop an "estimate to complete" metric for each task using appropriate earned value techniques  If this metric exceeds the planned completion for the task, the task will be highlighted as over-running and additional management focus will be brought to bear to understand and mitigate the effect of such tasks on the overall project. In addition, the time tracking review will look for under- or over-utilized personnel and for misapplied effort. The Contractor will identify tasks that beat their estimates or target dates so that available capacity can be used.

Throughout the project, records will be used to validate BOE algorithms and adjust them as experience dictates."

Production Ticket Assessment

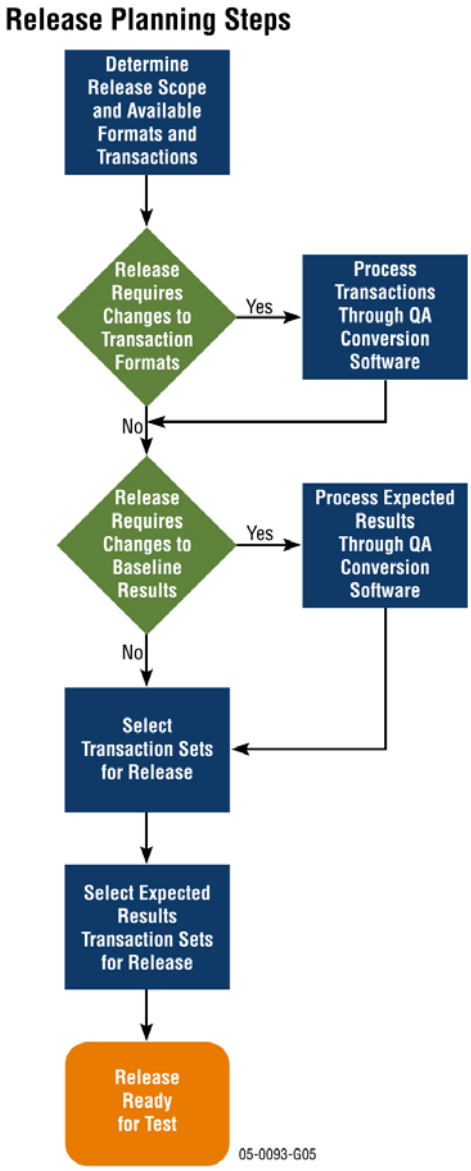
Production ticket assessment is a major component of release planning and overall quality assurance. The process allows stakeholders and project management personnel to evaluate work and then to prioritize and manage the timing of subsequent work, including system enhancements, bug fixes, required legislation enhancements, and technical improvements. Production ticket assessment tickets will be incorporated into maintenance or feature and function releases as warranted by size, resource availability, and priority. A sample of this workflow model is depicted in the figure below.

Release Planning

The release planning process is the primary management vehicle for determining the composition and timing of all major system enhancements and implementations. Release planning components include the following:

- Objective statement
- Feature and function content
- Work effort and staffing estimates
- Implementation assumptions and constraints
- Assumptions and risks
- Stakeholder concurrence

In coordination with the State and the MMIS Implementation Contractor, the contractor will participate in and support all steps of release planning. The contractor supplies the initial project plan template and creates a schedule that identifies draft due dates, scheduled reviews, and key decision points. The contractor facilitates the participation of the Department of Community Health, Department of Information Technology (DIT), and the MMIS Implementation Contractor. Project estimates are assessed for reasonableness. The contractor oversees and validates the number of personnel necessary to issue the release as well as the milestone dates based on constraints, critical path analysis, and State needs. The contractor oversees and validates the development of a detailed resource-driven project schedule.




**Release Planning**

Communication

An effective communication plan not only addresses verbal communications in meetings or in emails distributed to the team, but also manages and controls the flow of all critical project data to appropriate personnel. To be successful, communications must be complete, timely, and relevant to the audience's needs.

Most importantly, contractor's communication plan will identify project stakeholders, regardless of their organization or employer. The plan will specify the information to be communicated, information sources, means of distribution, frequency, and audience.

Whenever practical, project information will be made available through web-based means. Contractor recommends the creation of a project web page to afford access to information, metrics, and performance analysis reports.

Project Tracker notifies the project owner whenever a project is elevated to red status. Time Tracker identifies the staff members who are late in submitting their timesheets so that email notifications can be generated and sent. Issue Tracker also includes automatic email notification functions for issues, change controls, and risks.

Furthermore, Issues Tracker offers tailoring capabilities that enable users to define the projects and events for which they will receive notifications.

For certain circumstances and audiences, face-to-face meetings are essential. Where appropriate, the Contractor will plan and facilitate project leadership and critical special initiative meetings. For these, the Contractor will create agendas and distribute minutes. The Contractors approach to successful meeting planning and facilitation is noted in Table below.

**Meeting Management Best Practices**

| Knowledge | Activities | Preparation | Meeting Planning |
|---|---|---|---|
| • Participation is expected.<br>• Be open and honest.<br>• No idea is a bad idea.<br>• Respect the views of others.<br>• Agree to disagree.<br>• Do not verbally attack other participants.<br>• Use headlines to enhance clarity.<br>• Paraphrase complex ideas to enhance understanding.<br>• Express problems and concerns as "how to…" or "I wish…."<br>• Tell no war stories.<br>• Participate in one conversation at a time.<br>• Leave old baggage at the door.<br>• Be on time.<br>• Bring no hidden agendas. | • Understand roles, responsibilities, and focus of session leader.<br>• Understand tools for making decisions (brainstorming, RACI, fish diagrams, and so on).<br>• Create effective physical environment for groups, including facilities and tools.<br>• Understand the stages of group dynamics.<br>• Demonstrate skills, techniques, and behaviors to lead a group to consensus. | • Plan introduction.<br>• Plan kickoff.<br>• Plan approach, including:<br>• Identify problems.<br>• Determine possible solutions.<br>• Determine possible solutions to implement.<br>• Identify constraints.<br>• Review decisions.<br>• Wrap up discussion.<br>• Review issues and concerns.<br>• Follow-up activities | • Identify the owner.<br>• Identify the participants.<br>• Decide on the purpose, scope, and objectives of the meeting.<br>• Identify the meeting constraints.<br>• Create the agenda.<br>• Establish the meeting time and location.<br>• Send meeting agenda in advance. |

Performance Monitoring

The contractor will implement a project status monitoring process that provides a process and set of appropriate metrics to measure actual performance that can be viewed each week at the individual task level and periodically at the overall project level so that the management and executive leadership decisions based on current and relevant project status. Examples of key performance metrics include:

- Schedule variance – actual schedule performance versus baseline schedule
- Effort variance – actual effort compared to baseline effort estimate
- Priority issues and risks
- Overdue milestones and deliverables

The project schedule is updated with the prior week's progress by close of business each Monday. After the schedule is updated, a number of tools are used to extract data from the schedule and to perform completion-to-milestone and earned value analyses.

On a regular basis as determined by the State's PMM methodology, a high-level "project dashboard" will be circulated. As mentioned earlier, if the project envisions using a project website as a communications vehicle, the project dashboard would be recommended for inclusion on the website (see Figure below).

| | Green | Yellow | Red |
|---|---|---|---|
| Major Milestone Tasks | < 10% of tasks late | 10 % to 29 % of tasks late | > 30% of tasks late |
| Major Milestone | Achieved | | Missed |
| Escalated Issues Not Resolved | | > 2 weeks | |
| No Plan to Evaluate Progress | | Target date for establishing plan is less than 30 days out | Target date for establishing plan is > 30 days out |
| Earned Value Schedule Variance (SPI) | .9 <= SPI <= 1.2 | .8 <= SPI < .9 or 1.2 < SPI | SPI < .8 |

**Sample Project Dashboard**

When analysis indicates a problem, contractor will notify the State of Michigan about the problem and will document it on the project scorecard. The relevant team leader, team manager, or project manager must devise an action plan for bringing the project back on track. The will work with appropriate managers from the MMIS Implementation Contractor and the State to understand the cause of the problem, assess alternatives, and devise an action plan. Contractor will incorporate the action plan into the project schedule. Monitoring this action plan becomes part of the weekly performance monitoring process until the project is again on schedule.

## Task 2: Deliverables - Project Management Control Office Service

The Contractor shall monitor, control, and verify work progress and the quality of work level on the following deliverables in order to meet the project schedule and the overall project objectives. In addition, the Contractor will manage project risks by following appropriate procedures as defined in this contract whenever project schedules or overall project objectives are jeopardized. Table below describes the deliverables for Task 2:

**Task 2 Deliverables**

| Deliverable | Specific MMIS System Project Implementation Contract Requirements, Deliverables or Objectives | Approvals |
|---|---|---|
| Project Management Plan (PMP) | A complete PMP describes the following baseline elements for the project:<br>• Project charter<br>• Project scope<br>• Inventoried unvalidated requirements<br>• Project management processes for schedule management, status reporting, change management, risk management, issue management, communications management, testing | Executive Steering Committee |
| Release plans, including narrative description of release scope of feature and function | Contractor's PCO team will oversee the development of release plans, working in conjunction with the State and the Implementation Contractor. Each release plan will include:<br>• Scope of feature and function<br>• Identification of inter-system interfaces affected<br>• Implementation requirements<br>• Training requirements<br>• Business process reengineering requirements<br>• Schedule | DIT and DCH Project Sponsors |

| Deliverable | Specific MMIS System Project Implementation Contract Requirements, Deliverables or Objectives | Approvals |
|---|---|---|
| | • Assumptions<br>• Risks<br>• Work plan and schedule | |
| Work Plans and Schedules | Contractor's PCO team will oversee and assist in the creation of detailed deliverables-based work plans and schedules for each release. Work plans and schedules will be developed using MS Project. | DIT and DCH Project Sponsors |
| Resource Plans | The Contractor PCO team will plan resource requirements for each release and resource forecasts. | DIT and DCH Project Sponsors |
| Weekly status reports | The Contractor PCO team will oversee and assist in the creation of weekly task status reports, as described in detail in Section 4.4.3.1. | |
| Biweekly Project Reviews | The Contractor PCO team will oversee and assist with the compilation of summary project status information into the Project Review template described in Section 4.4.3.1 of this proposal. | |
| Project Management Assistance | The Contractor PCO team will oversee and assist in the implementation and the ongoing management and administration of the component plans of the total project management methodology, including:<br>• Risk management<br>• Issue management<br>• Scope change control<br>• Communications management<br>Contractor's PCO team members will participate in the various resulting from these processes, for example, the CCB for Change Control, Executive Steering Committee for Communications Management, and others. | |
| Performance Metrics | The Contractor PCO team will prepare various project status metrics, including:<br>• *Task Status Reports*. For each task in the work plan key metrics including schedule variance, actual effort hours, budgeted effort hours, estimate to complete, task status flag (red, yellow, or green)<br>• *Earned Value Analysis*. Schedule variance metrics<br>• *Resource Planning*. Monitoring use of resources<br>• *Defect Tracking*. Analysis of software testing results, organized by category and severity, including trend analysis<br>• *Issue Management*: Issues reviewed, categorized, and resolved | |
| Production Ticket Assessments | The Contractor PCO and IV&V teams will review production tickets, categorize and prioritize them, and recommend when they should be implemented in software releases. | |
| Ad Hoc Reports | The PCO team will make every effort to satisfy the special reporting and project analysis needs of the MMIS Replacement Project Management infrastructure. | |
| Communications Management Plan | Effective processes based on type and severity of subject matter to provide essential information in a timely manner to affected stakeholders at the project, executive, and external world level. | |
| Mentoring of State Staff | Any State personnel assigned to the project in a PCO role will receive on-the-job mentoring from the Contractor PCO team as the individual's talent, skills, knowledge, and experience warrant. | |

## Task 3 – Technical Control Services

**Objectives:**
The contractor Technical Control Team enforces technical and network security standards, oversees adherence to established technical processes, and provides infrastructure support services to the State and its MMIS Development and Implementation Contractor.

Contractor's Technical Control Team provides services in the following areas:

1. **Application / Database Management**
   a. Manage Application Architecture
      Coordinate, interface with, and complement the processes described below of application development and maintenance Contractor(s), DIT application development and maintenance teams, database teams, DCH, DIT-DCO and other functional areas (e.g., security, disaster recovery) as necessary.
      i. Perform capacity planning, analysis and projections.
      ii. Provide performance-tuning recommendations to development and maintenance teams (e.g., index recommendations, code efficiencies).
      iii. Establish and monitor code standards and practices as integrated with any applicable State and project standards.
      iv. Identify and monitor application quality standards (e.g., commit/restart, modularity, error handling) as integrated with any applicable State and project standards.
      v. Establish and monitor standards for programming languages and application interfaces and integrate with any applicable State standards.
      vi. Assist the State with software updates, and provide ongoing support management and maintenance of the software used in managing the project.

   b. Manage Databases
      Coordinate, interface with, and complement the processes described below of application development and maintenance Contractor(s), DIT application development and maintenance teams, database teams, DCH, DIT-DCO and other functional areas (e.g., security, disaster recovery) as necessary.
      i. Manage creation and maintenance process for all "MMIS" databases (e.g., production, read-only, training, development, testing etc.).
      ii. Manage creation of the application database from the model and audit all databases for conformance to standards.
      iii. Manage database change request process.
      iv. Provide disk space management.
      v. Provide capacity planning and projections.
      vi. Provide disaster recovery planning, as integrated with Data Center Operations (DCO).
      vii. Provide performance-tuning recommendations.
      viii. Support database security and user profile management.

c. Manage Integrity of Data
Coordinate, interface with, and complement the processes described below of application development and maintenance Contractor(s), DIT application development and maintenance teams, database teams, DCH, DIT-DCO and other functional areas (e.g., security, disaster recovery) as necessary.
   i. Provide reviews of MMIS data model(s) to ensure integrity of the data model(s) is maintained.
   ii. Validate activities resulting in new system values are not in conflict with current production values.
   iii. Provide coordination and configuration management of seed data.
   iv. Analyze database changes for proper standards and identify potential inconsistencies.
   v. Manage conversion process to ensure integrity of data.
   vi. Manage data mapping activities to ensure integrity of data.
   vii. Utilize the existing metadata repository to record table and column definitions.

d. Administer Data Loading and Data Utilities
Coordinate, interface with, and complement the processes described below of application development and maintenance Contractor(s), DIT application development and maintenance teams, database teams, DCH, DIT-DCO and other functional areas (e.g., security, disaster recovery) as necessary.
   i. Create processes to implement and manage the loading of data.
   ii. Ensure proper use of data utilities.
   iii. Validate user security/setups in application security tables.
   iv. Assist with creation, and testing of scripts for all data loads.

e. Plan, Prepare and Manage Multiple Database and Application Environments
Coordinate, interface with, and complement the processes described below of application development and maintenance Contractor(s), DIT application development and maintenance teams, database teams, DCH, DIT-DCO and other functional areas (e.g., security, disaster recovery) as necessary.
   i. Provide coordination and function as a focal point for communications between infrastructure teams and other project teams accessing the application architecture.
   ii. Coordinate schedules to meet project requirements for multiple simultaneous development and maintenance database regions and application versions.
   iii. Coordinate planning for region creations, refreshes, data loads, etc. as required by project teams to meet project deadlines.
   iv. Provide advance planning for software releases in order for development, training, and customer support teams to have environment access and data on schedule.

2. **Support Network/Development Environment**
Coordinate, interface with, and complement the processes described below of the application development and maintenance Contractor(s), and DIT application development and maintenance teams, DIT-DCS, DIT-Technical Services, DIT-Telecomm.
   a. Facilitate network analysis and capacity planning as it pertains to the MMIS system.
   b. Provide scripting expertise on troubleshooting desktop and network devices for use by the help desk.
   c. Provide interface to telecom providers for on-site troubleshooting and/or coordination of support efforts.

3. **Support Tools**
Coordinate, interface with, and complement the processes described below of PCO, infrastructure support teams, application development and maintenance Contractor(s), and DIT application development and maintenance teams.
   a. Create and maintain tools for the PCO and infrastructure support activities.
   b. Create new reports and functions for the MMIS leadership/governance team as requested.

c. Establish and maintain the PCO toolset, including:
    i. Issue Tracker
    ii. Change Control
    iii. Time Tracker
    iv. Configuration Tracker
    v. System DB
    vi. Continuous Improvement Request Tracker
    vii. Test Tracker
    viii. Ticket Tracker
    ix. Performance Monitoring and Reporting Tools
d. Integrate infrastructure tools, applications and utilities within the framework of the project control office.
e. Recommend improvements to tools or new tool creation
f. Support the tools hosting infrastructure.

4. **Configuration Management**

Coordinate, interface with, and complement the processes described below of the application development and maintenance Contractor(s), DIT application development and maintenance, and DIT-DCS.

a. Administer the version-control repository to enforce configuration management processes for new development and application maintenance activities.
b. Create, modify and improve automated build process controls.
c. Recommend software configuration products.
d. Manage and support the processes to modify production and “soon to be” production applications.
e. Provide configuration management processes for all source code archives and processes for the Data environments.
f. Manage all configurable items that comprise a software product (requirements, designs, and modules)
g. Provide support and recommend modifications to any software installation used to automate, facilitate and enforce the development process governing change control, workflow and promotion to production procedures.
h. Define strategies to manage data for testing, training, and demonstration purposes.
i. Provide production support ticket information (reports) and other program management data to MMIS Executive Leadership Team.

5. **Implementation Contractor Oversight**

a. Coordinate, interface with, and complement testing processes and schedules with the application development and maintenance Contractor(s), DIT application development and maintenance, DIT-DCS, DIT-Desktop, DIT Technical Services, and DCH.
b. Coordinate, interface with, and complement training processes and schedules with the application development and maintenance Contractor(s), DIT application development and maintenance, DIT-DCS, and DCH.
c. Coordinate, interface with, and complement requirements processes and schedules with the application development and maintenance Contractor(s), DIT application development and maintenance, and DCH.

6. **Support and Schedule Batch Cycles**

Coordinate, interface with, and complement the processes described below of the application development and maintenance Contractor(s), DIT application development and maintenance team, and DIT-DCS.

a. Oversee batch cycle schedules, including the nightly production batch schedule.
b. Oversee batch schedule for testing, training and all project team regions.
c. Oversee system interface (file transfers, payment interface, inbound file processing, etc.) schedules.

d. Provide input into batch performance and tuning.
e. Provide development and maintenance teams with timing information and recommendations.
f. Support performance improvement efforts and new releases regarding batch topics and batch processing window.

Task 3: Technical Control Services

**Objectives:**
The contractor's Technical Control Team enforces technical and network security standards, overseas adherence to established technical processes, and provides infrastructure support services to the State and it's MMIS Development and Implementation contractor.

The Technical Control Team provides services in the following areas:

**1. Application/Database Management**

a. **Manage Application Architecture**
Coordinate, interface with, and complement the processes described below of application development and maintenance contractor(s), DIT application development and maintenance teams, database teams, DCH, DIT-DCO and other functional areas (e.g. security, disaster recovery) as necessary.
   i. Perform capacity planning, analysis and projections.
   ii. Provide performance-tuning recommendations to development and maintenance teams (e.g., index recommendations, code efficiencies).
   iii. Establish and monitor code standards and practices as integrated with any applicable State and project standards.
   iv. Identify and monitor application quality standards (e.g., commit/restart, modularity, error handling) as integrated with any applicable State and project standards.
   v. Establish and monitor standards for programming languages and application interfaces and integrate with any applicable State standards.
   vi. Assist the State with software updates, and provide ongoing support management and maintenance of the software used in managing the project.

b. **Manage Databases**
Coordinate, interface with, and complement the processes described below of application development and maintenance contractor(s), DIT application development and maintenance teams, database teams, DCH, DIT-DCO and other functional areas (e.g., security, disaster recovery) as necessary.
   i. Manage creation and maintenance process for all "MMIS" databases (e.g., production, read-only, training, development, testing etc.).
   ii. Manage creation of the application database from the model and audit all databases for conformance to standards.
   iii. Manage database change request process.
   iv. Provide disk space management.
   v. Provide capacity planning and projections.
   vi. Provide disaster recovery planning, as integrated with Data Center Operations (DCO).
   vii. Provide performance-tuning recommendations.
   viii. Support database security and user profile management.

c. **Manage Integrity of Data**
Coordinate, interface with, and complement the processes described below of application development and maintenance contractor(s), DIT application development and maintenance teams, database teams, DCH, DIT-DCO and other functional areas (e.g., security, disaster recovery) as necessary.

i. Provide reviews of MMIS data model(s) to ensure integrity of the data model(s) is maintained.
ii. Validate activities resulting in new system values are not in conflict with current production values.
iii. Provide coordination and configuration management of seed data.
iv. Analyze database changes for proper standards and identify potential inconsistencies.
v. Manage conversion process to ensure integrity of data.
vi. Manage data mapping activities to ensure integrity of data.
vii. Utilize the existing metadata repository to record table and column definitions.

d. **Administer Data Loading and Data Utilities**
Coordinate, interface with, and complement the processes described below of application development and maintenance contractor(s), DIT application development and maintenance teams, database teams, DCH, DIT-DCO and other functional areas (e.g., security, disaster recovery) as necessary.
i. Create processes to implement and manage the loading of data.
ii. Ensure proper use of data utilities.
iii. Validate user security/setups in application security tables.
iv. Assist with creation, and testing of scripts for all data loads.

e. Plan, Prepare and Manage Multiple Database and Application Environments
Coordinate, interface with, and complement the processes described below of application development and maintenance contractor(s), DIT application development and maintenance teams, database teams, DCH, DIT-DCO and other functional areas (e.g., security, disaster recovery) as necessary.
i. Provide coordination and function as a focal point for communications between infrastructure teams and other project teams accessing the application architecture.
ii. Coordinate schedules to meet project requirements for multiple simultaneous development and maintenance database regions and application versions.
iii. Coordinate planning for region creations, refreshes, data loads, etc. as required by project teams to meet project deadlines.
iv. Provide advance planning for software releases in order for development, training and customer support teams to have environment access and data on schedule.

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Coordinate, interface with, and complement the processes described below of the application development and maintenance contractor(s), and DIT application development and maintenance teams, DIT-DCS, DIT-Technical Services, DIT-Telecomm.
a. Facilitate network analysis and capacity planning as it pertains to the MMIS system.
b. Provide scripting expertise on troubleshooting desktop and network devices for use by the help desk.
c. Provide interface to telecom providers for on-site troubleshooting and/or coordination of support effects.

3. **Support Tools**
Coordinate, interface with, and complement the processes described below of PCO infrastructure support teams, application development and maintenance contractor(s), and DIT application development and maintenance teams.
a. Create and maintain tools for the PCO and infrastructure support activities.
b. Create new reports and functions for the MMIS leadership/governance team as requested.
c. Establish and maintain the PCO toolset, including:
i. Issue Tracker
ii. Change Control
iii. Time Tracker
iv. Configuration Tracker

v. System DB
vi. Continuous Improvement Request Tracker
vii. Test Tracker
viii. Ticket Tracker
ix. Performance Monitoring and Reporting Tools

d. Integrate infrastructure tools, applications and utilities within the framework of the project control office.
e. Recommend improvements to tools or new tool creation.
f. Support the tools hosting infrastructure.

4. **Configuration Management**
Coordinate, interface with, and complement the processes described below of the application development and maintenance contractor(s), DIT application development and maintenance, and DIT-DCS.
   a. Administer the version-control repository to enforce configuration management processes for new development and application maintenance activities.
   b. Create, modify and improve automated build process controls.
   c. Recommend software configuration products.
   d. Manage and support the processes to modify production and “soon to be” production applications.
   e. Provide configuration management processes for all source code archives and processes for the Data environments.
   f. Manage all configurable items that comprise a software product (requirements, designs and modules)
   g. Provide support and recommend modifications to any software installation used to automate, facilitate and enforce the development process governing change control, workflow and promotion to production procedures.
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5. **Implementation Contractor Oversight**.
   a. Coordinate, interface with, and complement testing processes and schedules with the application development and maintenance contractor(s), DIT application development and maintenance, DIT-DCS, DIT-Desktop, DIT Technical Services, and DCH.
   b. Coordinate, interface with, and complement training processes and schedules with the application development and maintenance contractor(s), DIT application development and maintenance, DIT-DCS, and DCH.
   c. Coordinate, interface with, and complement requirements processes and schedules with the application development and maintenance contractor(s), DIT application development and maintenance, and DCH.

6. **Support and Schedule Batch Cycles**
Coordinate, interface with, and complement the processes described below of the application development and maintenance contractor(s), DIT application development and maintenance team and DIS-DCS.
   a. Oversee batch cycle schedules, including the nightly production batch schedule.
   b. Oversee batch schedule for testing, training and all project team regions.
   c. Oversee system interface (file transfers, payment interface, inbound file processing, etc.) schedules.
   d. Provide input into batch performance and tuning.
   e. Provide development and maintenance teams with timing information and recommendations.
   f. Support performance improvement efforts and new releases regarding batch topics and batch processing window.

**Task 3 – Contractor Approach to Providing Technical Control Objective**

Contractor's Technical Control effort will be directed by contractor's Infrastructure Team Manager.

## Application/Database Management

Manage Application Architecture

MMIS will be a large and complex system, spanning a wide variety of hardware and network platforms and interfacing with a wide variety of external State and federal information platforms. For the State to realize the greatest value from this technical investment, it needs to be efficient, reliable, robust, and fault-tolerant. Through its systems integration and software development experience, the Contractor's team has developed a wealth of experience with complex systems in rich environments. Contractor will bring that experience to bear by evaluating the transfer system's architecture and apply contemporary architectural practices aimed at creating systems that operate quickly and efficiently, that survive single component failure, that can be configured dynamically to adjust to environment topology changes, and that can be recovered quickly in the case of serious outages.

The contractor will apply this expertise during all phases of application development and deployment to ensure that MMIS meets or exceeds all State expectations around performance, reliability, and robustness.

Perform Capacity Planning, Analysis, and Projections

The contractor will analyze estimates of concurrent and total user population, transaction volume, and data volume and combine those estimates with non-functional requirements such as page response time, batch cycle duration, and report generation duration in order to develop capacity plans and volume projections.

Using appropriate industry benchmarks, and working with both the MMIS Implementation Contractor and with State infrastructure teams such as Data Center Services and Network Management, the contractor will translate these plans and projections into a hardware and network usage model that covers all environments, both production and non-production.

The contractor will further deploy a usage monitoring framework in the development and testing environments to capture actual network, central processing unit (CPU), and storage metrics. These metrics will be analyzed and the results used to appropriately tune the production plant's sizing. Deployment of the same framework on the production system will be used to tune the growth projections and to allow for timely planning of any necessary capacity upgrades.

Provide Performance Tuning Recommendations

Application performance in a modern, complex, distributed system can be affected by a wide variety of factors. Poor application modeling can result in excessive communication between objects. Poor network analysis can result in inter-server bottlenecks. Poor persistence modeling can result in unnecessary or inefficient instantiation of objects or in objects remaining instantiated long after their usefulness has expired.

Contractor will use available tools to analyze, among other things, inter-component network traffic, persistence traffic, object lifetime, and computer resource consumption (CPU, random access memory [RAM]). From these analyses the Contractor's team will, in concert with the MMIS Implementation Contractor and appropriate State infrastructure teams, develop performance improvement recommendations.

Establish and Monitor Code Standards

Contractor will use existing and established State practices and standards as the basis for the MMIS project. After careful analysis of these standards, the contractor will make a presentation to the Department of Information Technology (DIT) on areas in which the standards may need extension and will work with DIT to create those extensions as required. The contractor will monitor the correct application of the standards by participating in implementation Contractor design and code reviews and by sampling from the source code library. The contractor will make sure to sample a significant amount of every developer's work.

Contractor will develop and manage a process for correcting non-conforming work product in a manner that mitigates schedule impact.

Identify and Monitor Application Quality Standards

From the perspective of contractor's Technical Control team, application quality is a measure of how efficiently the application uses resources; how it responds to component failure, both internal to the application and in the external environment; how little it adds to the operational workload; and how little manual administration is required (after installation).

Particular examples of application quality include:

- The ability to survive a temporary network outage without a restart
- The ability to survive a temporary database outage without a restart
- The ability to restart batch processes at the last checkpoint before interruption
- The publication of performance and error metrics and information to monitoring systems
- The ability to update code tables, state trees, etc. without an application restart

There is a well-established body of knowledge and practices around construction of quality applications, including architecture and design patterns, industry best practices, and infrastructure Contractor best practices. The contractor has wide experience in applying these practices and, in concert with the MMIS Implementation Contractor, will ensure that these techniques and practices are incorporated into MMIS.

Establish and Monitor Interface Standards

The MMIS system will interact with numerous other State and federal systems, using some sort of functional or data exchange interface. Many of these system interfaces already exist, while some may need to be developed new. For pre-existing interfaces, most likely the new MMIS will replicate the legacy interface. For new interfaces, the Contractor's team will establish an interface standard for MMIS. These standards will include:

- A rigorous data dictionary for externally exposed data elements
- Requirements for provability of validity of interchange artifacts
- Common workflow and notification processes around data rejection
- Infrastructure for data repair and load retry

Assist the State with Software Updates

Software updates will be required at three levels of the MMIS stack:

- Operating systems patches and upgrades
- Infrastructure software (application server, web server, relational database management system [RDBMS]) patches and fixes
- Application software fixes and releases

Contractor will ensure that proper software support agreements are in place in order to have access to all appropriate patches and upgrades.

Contractor will work with State DIT to determine which operating system and infrastructure software patches and upgrades to apply. These fixes will be assembled into appropriate packages. The Contractor recommends they be applied first to the test environment on a monthly release cycle. Application regression tests will be performed, and the test environment monitored for unexpected behavior. Properly behaving packages will be applied to Quality Assurance (QA) and Production on the next scheduled cycle.

Application changes will performed through the use of the PCO toolkit, by execution of the MMIS production promotion process. The contractor will execute the process, in conjunction with Data Center Services and other State teams, to load a new production candidate into the QA and Production environment.

Contractor will ensure that MMIS has access to all appropriate patches and upgrades through the existence of proper software support agreements.

Manage Databases

MMIS is a large and complex project with many phases and environments. Each phase and environment will have a need for one or more databases. The contractor will oversee the database creation and configuration processes as required to support all non-production and production MMIS environments.

Correct data access security and data integrity are crucial to the success of MMIS. The Contractor's team will work with the MMIS Implementation Contractor to ensure that a rigorous and complete security model is developed and implemented and will apply that model as appropriate to each database.

Contractor will also oversee other required database management services, including physical space management, capacity planning, and query performance analysis.

Manage Database Creation and Maintenance

MMIS will require databases with the same schema but of various sizes to support the development, test, and production phases of the project. Contractor will work with database administrators (DBAs) to construct a set of database storage allocation templates appropriate to the various environments and phases and combine these with schema build scripts to facilitate rapid and reliable database creation.

As necessary, the contractor will use standard RDBMS facilities to create synchronized, read-only copies of the production operational instance. Database security will be strictly configured in order to maintain the image integrity of the copy.

Manage and Audit Application Database Model

Contractor will assist in applying industry best practices to ensure the integrity of the MMIS data model. The model will be analyzed to ensure full relational integrity, appropriate normalization, type correctness, etc. Changes to the model will be managed through the PCO toolkit version control system. Database creation scripts will be automatically generated from the model, as will the modification scripts required to upgrade the physical implementation to match model changes.

Database schemas will contain model version data. This data will be used by an automated audit to verify that physical schemas correctly match stored models and that the schemas have not been subject to local change. Audit reports will be published to the project team using the PCO toolkit (if necessary, by creating a custom report).

Manage Database Change Request Process

As stated above, changes to a physical database will be required only as they correspond to an approved and audited change to the model. A change in the model will cause the creation of a database change script. Contractor will conduct peer reviews of the planned changes, in conjunction with the MMIS Implementation Contractor and appropriate State personnel, to determine that the changes properly maintain foreign-key relationships, relational integrity, and normalization.

Approved changes will be promoted to the appropriate environment by execution of the MMIS promotion process in the target environment.

Manage Disk Space

During the development phases of MMIS, a number of environments will be created that will not persist once MMIS enters production. Contractor will supervise and assist with analyzing storage requirements across environments and will create a usage plan that strikes an appropriate balance between environment concurrency and expenditure.

The contractor will develop and implement strategies for creating reduced size databases to be used for development and functional testing. The contractor will also develop an archival storage mechanism that

allows MMIS to move inactive historical data out of the operational store, protecting performance and capping that store's capacity requirement. The archive will of course be available in a manner that meets all State and federal regulations pertaining to such information.

Contractor will monitor disk usage growth in production and create storage usage projections. The Contractor will work with the State to ensure that expansion capacity is acquired and brought online in a timely fashion.

Provide Capacity Planning

Contractor will oversee and assist with the analysis of concurrent and total user population, transaction volume, and data volume and combine them with non-functional requirements (e.g., page response time, batch cycle duration, and report generation duration) in order to develop capacity plans and volume projections.

Using appropriate industry benchmarks and working with both the MMIS Implementation Contractor and State infrastructure teams such as Data Center Services and Network Management, the Contractor's team will translate these plans and projections into an RDBMS usage model that covers all environments. Both production and non-production environments should be developed.

Additionally, contractor will collaborate with State and MMIS Implementation Contractor staff to deploy a usage monitoring framework in the development and testing environments to capture actual CPU and storage metrics. These metrics will be analyzed and the results used to appropriately tune the production plant's sizing. Deployment of the same framework on the production system will be used to tune the growth projections and to allow for timely planning of any necessary capacity upgrades.

Provide Disaster Recovery Planning

Disaster recovery planning is concerned with ensuring that critical business operations continue in the event of extended outage to the primary processing environment. It involves a number of cost/risk calculations, including:

- Allowable outage period before service must resume
- Necessary percentage of primary capacity available in different outage scenarios (e.g., 1 week, 1 month, 6 months)
- Necessary currency of data in recovered system (e.g., end of previous week, end of previous day, last complete transaction)

Contractor will use the answers to these and other questions to oversee and assist with the creation of a recovery scenario matrix and, in concert with State personnel, will recommend the most appropriate scenario for MMIS.

Once a scenario (a statement of capacity, capability, and recovery time) has been selected, the contractor will work with State infrastructure teams to implement a set of processes and technologies that create a disaster recovery facility for MMIS and keep it current. These processes will include:

- System releases synchronized with the primary site
- Periodic data updates, to meet the data currency requirement
- Periodic automatic functional exercise of the site, to ensure technical readiness
- Periodic disaster simulations, during which State staff follow written procedures to travel to a designated disaster operations location, access the system, and conduct simulated business activities

Provide Performance-Tuning Recommendations

Using standard analysis tools and applying industry and RDBMS Contractor best practices, the contractor will investigate all aspects of the MMIS database performance. The team will examine query plans and statistics for all major queries; the frequency of full table scans and temporary index creation; and the output of resource monitoring tools (CPU, RAM, network bandwidth). From these examinations and analyses, we will work with both the MMIS Implementation Contractor and appropriate State teams to develop and deploy

recommendations for performance improvement and contractor will work with both the MMIS Implementation Contractor and appropriate State teams to deploy them.

Support Database Security and User Profile Management

Contractor shall lead the team in the contractor's work with the State Enterprise Security team to implement user management processes that conform to all State and federal compliance requirements. In conjunction with Enterprise Security, contractor will oversee and assist with configuring the RDBMS security model to strictly protect MMIS data from any but authorized access. If one does not exist today, contractor will recommend the development of a web-based access request process within which approved State staff can request new user accounts, revoke user accounts, and manage the roles assigned to accounts. The system will track all changes for audit purposes and will securely and accurately update the database security model to reflect approved changes.

Contractor will work with the DBAs to protect the database against ad hoc access for reporting or data-mining and assure that all planned data loads and extracts will be performed through approved tools and not through ad hoc queries. Where necessary and appropriate, depending on the sensitivity of stored data, the contractor may recommend encryption of one or more data elements within the production database and assist the DBAs with developing identity-hiding technology that permits the creation of test data from production data with the correct relationships, but with identity information scrambled.

Manage Integrity of Data

Data integrity will be managed on two fronts. On the first front, contractor will assist in creating and maintaining a single, versioned data model for MMIS. The model will be strictly reviewed to eliminate flaws in data typing, normalization, attribute naming, or foreign-key mapping. All changes to databases will be made using updated scripts automatically generated as the model is versioned.

The second front will relate to the management of the accuracy of seed data. All seed data will be peer-reviewed and versioned and loaded into appropriate environments using the MMIS environment promotion process.

Contractor will work closely with the MMIS Implementation Contractor as well as State technology teams such as Enterprise Security and Disaster Planning to ensure the highest integrity of data, so that MMIS can provide the greatest benefit to the citizens of the State.

Provide Review of MMIS Data Model

Contractor will help implement a framework within which all relevant parties can cooperate in implementing a careful review of the data model, at all stages of its evolution. The review will cover all aspects of logical and physical database design, including:

- Data typing
- Table composition
- Domain constraints
- Physical allocation of tables to spindles
- Purging of inactive data to archive storage

Recommendations for change will be entered into and managed from the Infrastructure Request System.

Validate System Values

Contractor will work with MMIS business personnel to completely define and document the various code tables and system reference data required to operate the system. It will then work with the MMIS Implementation Contractor to ensure that these reference data are organized in a logical manner in the data model so as to provide for correct operation of the application. The sets of values will be peer-reviewed with appropriate State technical teams.

Manage Seed Data

Contractor will provide coordination and configuration management to the creation of seed data loads as versioned artifacts in the PCO version control repository, from which they will be loaded into appropriate environments as a step in the MMIS environment promotion process. Seed loads will be designed to be completely replaced at checkpoints in the development lifecycle (if so required). The MMIS system will be required to reload seed data without a system restart (to facilitate testing).

Seed data loads are a one-time production event. Once MMIS is in continuous production, it is not expected that they will need to be repeated. Rather, MMIS itself will be required to possess functionality capable of changing seeded data elements as necessary.

Analyze Database Changes for Standards and Consistency Compliance

As stated above, database changes will be generated automatically from the versioned data model. If the data model is in conformance, then the proposed changes will also be in conformance. The Contractor team, in conjunction with the MMIS Implementation Contractor and appropriate State technical teams will conduct peer reviews of the model to ensure the following:

- Conformance to naming standard
- Consistent data typing across discrete instances of an attribute
- Appropriate use of foreign keys

Further, data dictionary definitions for the attributes used for table joins will be inspected to ensure that the elements really are appropriate for joining.

Manage Conversion Activities

Data conversion is a critical and complex part of any major systems implementation. Data from older systems, sometimes with weaker type control and integrity constraints, must be converted to the data representation of the new system and loaded into the new repository. At least some of the data may be sufficiently active that it cannot be cannot be converted and loaded into the new system while the old system is also running, necessitating a production outage.

- Triage data to be converted into categories that are straightforward, one for data that is complex but capable of being automated, and the other for data that requires manual attention.
- Build conversion tools for the first two types and test them by converting scrubbed data for use in development and integration testing.
- Build validation tools that perform independent verification of converted data.
- Refine these tools until their expected error volume falls below an agreed level (say 0.1%).
- Analyze volume of conversion that required manual intervention and attempt to create partial automation in order to reduce the amount of manual conversion to a manageable level.
- Run test conversions of production and refine tools and techniques until expected error volume falls below an agreed level (say 0.1%).
- Based on findings from conversion testing, create production conversion plan.

Contractor recommends that the new MMIS schema contain flags on primary data entities that allow them to be marked as “under review.” In this way, the data requiring manual conversion (expected to be randomly spread across all data elements and not concentrated in just one table) can be marked as unusable for a short period after conversion, allowing MMIS to go live with the shortest possible outage. As these elements are repaired, the “under review” flag can be unset, making those records available to the user population.

Manage Data Mapping Activities

The data that will ultimately reside within MMIS is likely currently stored in a variety of legacy systems. These systems likely do not share a common data dictionary, leading to the likelihood that an attribute with the same name in two systems is in reality two unrelated attributes, while two attributes with different names represent the same actual attribute. In addition, attributes will have different types and sizes across systems.

Contractor will oversee and assist with the development of a comprehensive data dictionary of all to-be-mapped data attributes, documenting location, type, size, linking relationship (if any), update source, and other relevant information. From this dictionary and detailed analysis of the role these attributes play in current applications, contractor will assist in providing an analysis to the conversion team that ensures converted data is correctly mapped.

Utilize State Metadata Repository

A complete and detailed data dictionary is critical to many of the data mapping and conversion activities. The contractor will guide the building of the necessary tools to load this information into the existing metadata repository. Contractor will also assist in the building and use of any existing tools to associate the data dictionary definitions with columns in tables in the production schema.

Administer Data Loading and Data Utilities

During development and testing and as part of application launch, seed data and converted legacy production data will have to be loaded into non-production and production databases. The contractor will oversee development of processes and tools for creating appropriately sized loads volumes for the needs of particular environments, for performing those loads, and for verifying that the resulting database contains all loaded and only loaded data.

Contractor will ensure that each loaded database implements an appropriate subset of the access security model. This will be achieved through scripts generated from the access security layer of the data model.

Create Processes to Implement and Manage Data Loading

Contractor will, while working with the data dictionary developed during data mapping analysis, and referencing the MMIS Implementation Contractor’s development schedules from the PCO Process Tracker manage and assist with the development of scripts that load progress appropriate converted and seed data into a target environment.

The load tools should be version-controlled, and audit tools will be developed to ensure that the load script is properly synchronized with the current schema, as delivered from the MMIS Implementation Contractor. The contractor will work with that Contractor to ensure that necessary data is available in a timely manner.

Ensure Proper Use of Data Utilities

Contractor will ensure that data utilities are used appropriately, in support of the goal of timely, clean, and accurate data, and not inappropriately, to circumvent project constraints to achieve a “quick-fix” to a short-term problem.

Contractor will utilize the standard utilities shipped as part of the RDBMS toolkit, as well as acquiring or developing any missing capabilities.

Validate Application Security Setup

At each stage of the project, be it development, testing, production rollout, or a disaster recovery test, it is essential that the system be seeded with sufficient user accounts, roles, and privileges for it to be used. While this seeding can in theory always be achieved through the existence of just one “super-user” account, which is in turn used to create all other accounts, it is not an efficient approach. The contractor will therefore interact with State security, the PCO, the user community, and the MMIS Implementation Contractor to discover,

document, and load initial security definitions for initial users for each environment. Audit reports will be generated to demonstrate that these loaded accounts and roles have the appropriate, and only the appropriate, access to data.

Contractor will also work with the MMIS Implementation Contractor to validate the security model of the application in order to ensure that capabilities are only advertised to persons who are authorized to make use of them. The contractor will also investigate whether the security role credentials should be managed within the MMIS operational database, or within a secure directory service, like MS Active Directory or IBM LDAP Server, instances of which might already be in service within the State's trusted computing environment.

Assist with Creation and Test of Data Load Scripts

Contractor has much experience with data conversion and data loading. The contractor will bring this experience to bear on MMIS, assisting the MMIS Implementation Contractor and the conversion team to produce data loading scripts that possess the following characteristics:

- Restart able
- Tolerant of individual bad records
- Efficient
- Capable of reporting full status and results to the PCO toolkit
- Capable of performing data validation and checks on a set of load files before load is initiated

As with all other artifacts of the MMIS project, these scripts will be versioned and linked to particular versions of the data model. They will check as necessary that the physical database schema is at an appropriate level to receive the load, before starting operation.

Plan, Prepare, and Manage Multiple Environments

The MMIS project will need a wealth of environments for development, integration testing, quality assurance, staging, training, disaster recovery, and of course production. Some of these environments will exist for a long time while others will exist just long enough to serve some emergency need, after which they will be dismantled. Environments will be at various application and database release levels. They will require varying amounts of system resource. Planning for, creating, and managing this set of environments successfully will be crucial to the timely development and deployment of MMIS.

Contractor will oversee the development of an environment management plan. Working with the MMIS Implementation Contractor's development schedule and in concert with State technology teams, test teams, conversion teams, training teams, and Data Center Operations, this plan will define when each environment should be ready, as well as the resource requirements of that environment, its expected duration, and the data loads it requires.

Provide Focal Point for Cross-Team Communications

Contractor will participate in all schedule planning and scope management sessions, will employ the Issue Tracker and Ticket Tracker systems, and will use the information gained to actively manage and adjust the environment availability plan. The team will disseminate changes to the plan through the Infrastructure Requests System, as well as by proactive communication with all concerned teams, parties, and stakeholders. In this way, the contractor will act as a focal point for communication related to environmental availability and composition.

Coordinate Application and Database Schedules

MMIS will use a significant number of environments as it progresses from development to production. Each environment, in addition to hardware and infrastructure software, will require a deployed version of the application and a database that matches the functional capabilities of that application. Up to the point of initial production, application versions progress in a serial fashion, with fixes to problems found in Build A being incorporated in Build B. Once the application goes live, the code line splits: fixes and emergency functional

enhancements are managed on the production line, while planned application changes are made on the next release line. It is crucial that the application and database versions that are deployed in a given environment for a given purpose are the correct versions.

Using the PCO build tools, in particular the Infrastructure Request System, the Build Tracker, and the Ticket Tracker, and in conjunction with the MMIS Implementation Contractor's schedules and the schedules of appropriate State teams, the contractor will develop a process that aligns MMIS releases with environment availability, ensuring the timely progress of the MMIS project.

Coordinate Environment Planning

The MMIS project will need a wealth of environments for development, integration testing, quality assurance, staging, training, disaster recovery, and of course production. Some of these environments will exist for a long time while others will exist just long enough to serve some emergency need, after which they will be dismantled. Environments will be at various application and database release levels. They will require varying amounts of system resource. Planning for, creating, and managing this set of environments successfully will be crucial to the timely development and deployment of MMIS.

Contractor will oversee development of an environment management plan. Working with the MMIS Implementation Contractor's development schedule and in concert with State technology teams, test teams, conversion teams, training teams, and Data Center Operations, this plan will define when each environment should be ready, as well as the resource requirements of that environment, its expected duration, and the data loads it requires.

The environments will be mapped out over the life of the project, and overlapping requirements reduced to the extent feasible so as to minimize the project's total resource requirements. Using the Infrastructure Request System, environment construction will be scheduled in a timely manner, so as to be available as necessary.

**Coordinate Advance Software Release Planning**

The MMIS environment plan makes provision for all environments required to support planned customer activity, including training and customer support, over the life of the project. Each of these environments will be requested in a timely manner through the Infrastructure Request System, and the contractor will proactively notify all affected State technology teams of the required activity. Using the MMIS promotion process, an appropriate release is then installed in the newly created environment, in readiness for the planned training or support activity.

Support of Network/Development Environment

The MMIS project will connect many, dispersed interest groups, both within the State and across the community of partners of the MMIS Implementation Contractor. These interest groups need reliable, responsive, secure connectivity to be able to perform their allotted MMIS development, testing, and training tasks in a timely fashion. A responsive network is thus a cornerstone of success for the MMIS project. The contractor will assist in designing and troubleshooting routers, switches, firewalls, and local area networks (LANs) in MMIS-related environments as and when such needs occur.

The contractor will interact with the State to deploy State-standard network monitoring tools across MMIS-related nodes and networks in order proactively to predict and address problems.

Contractor will use the Load Tracking component of the PCO toolkit to capture and disseminate network traffic information to authorized and concerned members of the project team

Facilitate Network Analysis and Capacity Planning

Contractor will oversee deployment of State-standard network monitoring tools across the various MMIS environments. Using these tools, the State team can monitor the behavior and measure the bandwidth consumption of all network-connected components. During the analysis of these data, the contractor will build an ever more accurate network capacity model of MMIS.

In the early stages, environments will be smaller than the planned production platform, so capacity estimates will involve some gross scaling assumptions. As environment size and makeup approaches that of production, the model will become more accurate. The contractor will run load simulations with various combinations of concurrent user count and database size to determine how usage will grow with system load.

From these activities, contractor will assist the State with constructing a full network model. This model will provide sizing information for network bandwidth at launch, as well as projections for future bandwidth needs growth.

Network monitoring and bandwidth usage capture tools will be deployed in the production environment. Selective use will allow actual production usage to be compared with the model, allowing the model to be tuned to actual experience and allowing for accurate growth projections.

**Provide Desktop and Network Troubleshooting Expertise**

Contractor may work with the State Field Services team to troubleshoot desktop connectivity and application support problems related to MMIS. Working with the MMIS Implementation Contractor, Contractor may develop a desktop requirements statement for the MMIS application and will work with appropriate State teams to ensure that the appropriate standard desktop templates accommodate these requirements.

In the case of desktop connectivity or application malfunction, the Contractor has the experience necessary to instrument the affected desktop or LAN, to capture appropriate trouble indicators to analyze these indicators, and to propose remedies.”

**Provide Interface to Telecommunications Providers**

Contractor understands that the State has full capability in the area of network infrastructure management and thus expects that the scope of this task relates only to the management or acquisition of unexpected additional connectivity related to MMIS deployment. Since the contractor has a wealth of experience dealing with telecommunications service providers, the contractor is well prepared to deal with these issues in order to ensure a stable and responsive distributed network for MMIS.

**Support Tools**

Effective, robust, reliable communication is an absolute cornerstone of success on a large and complex project. MMIS stakeholders, project office members, developers, testers, trainers, all need access to complete current project information, including schedules, plans, build results, issues, planned changes, test results, and load reports. The Contractor understands that the State has a full web toolkit, the PCO web tools, which provide a distributed infrastructure for collection and dissemination of all of these data.

Using the PCO toolkit or other agreed-upon tool(s), project member can retrieve information relating to the following:

- Schedules
- Trouble tickets
- Issues
- Performance data
- Change requests
- Other crucial project documents

Contractor will perform continuous improvement on the toolkit, seeking ever richer integration and automation, and an ever greater scope of supported information."

**Create and Maintain PCO and Infrastructure Support Tools**

"Contractor will work with the appropriate State teams to deploy a PCO toolkit environment for MMIS, analyze the capabilities of those tools as they relate to coverage of the full PCO and infrastructure needs of MMIS, and present findings to the project team.

Should opportunities for additional capabilities be identified then the contractor will present a capability enhancement recommendation and plan to the PCO. Upon approval from the PCO, the contractor will undertake to acquire, build, and deploy additional capabilities in the MMIS support tool framework."

**Create Reports and Functions on Request**

Contractor will help assess requests to add new reports and capabilities to the support tools. Requests will be analyzed and sized, then reviewed and prioritized by the full PCO. Accepted requests will be managed on a development and test queue, and changes released into the environment under full control of the MMIS configuration management process.

**Establish and Maintain PCO Toolkit**

Contractor will work with the State either to deploy a complete, private set of the PCO toolkit for MMIS IV&V and PCO project or to configure a dedicated region for MMIS within a shared PCO toolkit environment. The contractor will perform all appropriate maintenance of said MMIS toolkit for the duration of the project.

**Integrate Tools and Utilities within PCO**

Applying the approach and methodology used to handle capability and report enhancement requests, the contractor will manage requests to integrate MMIS infrastructure support tool capabilities into the project office framework. The contractor has a wealth of experience in performing tool integration activities.

**Recommend Tool Improvements**

Following its stated continuous improvement philosophy, the contractor will apply its considerable experience in tool creation and integration to examining the capabilities of the MMIS infrastructure and support tools and their integration with the project office framework. As opportunities for enhancement and extension present themselves, the team will prepare findings and recommendations and present them to the PCO for consideration.

**Support Tool Hosting Environment**

Contractor expects that the initial deployment and installation of the MMIS infrastructure and support tools will be performed by the appropriate State technology teams. Once installed, the contractor will manage perform such administration as is authorized by the Data Center Security model, and will cooperate with Data Center staff to perform such necessary maintenance and configuration as is outside its remit.

**Configuration Management**

Configuration management (CM) is a software lifecycle discipline that combines both technology and process. It serves to organize and control evolving software, and to maintain an auditable and repeatable history of a project's component artifacts, including for example source code, applications builds, development tools releases, interface specifications and requirements documentation.

At its core, CM has a version control engine, which reliably stores and securely makes available all registered versions of controlled artifacts. Integrated with the version control engine can be tools to report problems, configure and automate builds, configure and automate regression tests, request enhancements, etc. With a high degree of integration, a project team will have excellent control over the project lifecycle, and will be able to meet the following project objectives.

- Provide a secure repository for all project artifacts.
- Control changes to artifacts.
- Support concurrent changes to artifacts.
- Build releases from approved, verified components.
- Schedule checkpoint releases at appropriate stages of the process.
- Allow for reproduction of prior builds as required.

MMIS will have such a high degree of integration through use of PCO toolkit. Build Tracker and its associated version control engine will provide for secure, repeatable builds. Issue Tracker will allow for central collection of all issues and change requests and for associating resolution of issues with particular software changes and builds. Test Tracker will provide a platform for validating that issues have been resolved. Report Tracker will provide for a rich synthesis of the information from the other tools to be disseminated to stakeholders and participants in an efficient and timely manner.

Contractor will enhance the PCO toolkit with a rigorous CM process to ensure that approved changes are reflected “upstream” in the requirements and design documents, as well as “downstream” in the code and test cases.

### Administer Version Control Repository

Contractor will provide configuration and administration of the MMIS project version control repository. Working with the MMIS Implementation Contractor and with appropriate State teams, a hierarchy of MMIS artifacts will be developed. The team will develop artifact naming standards, a version numbering scheme, a release labeling scheme, and other necessary standards and processes, all of which will operate within the aegis of the State standard version control repository.

An artifact promotion control process will be implemented and enforced to maintain the integrity of labeled releases. Labeling will be a privileged operation, restricted to the appropriate members of the PCO.

### Create and Improve Automated Build Process

The contractor will deploy the State’s standard PCO toolkit, including the Build Tracker tool, and use it to automate MMIS builds. Where appropriate, the contractor will enhance the activities of Build Tracker with process improvements and/or toolkit extensions to render the tool ever more capable. These changes will be implemented in such a way as to have benefit to the State on projects other than MMIS.

### Recommend Software Configuration Products

The contractor has diverse experience with software configuration products, including the State standard Project Version Control System (PVCS). The contractor will carefully analyze the State’s current deployment of PVCS and report whether there are significant missing capabilities. The contractor will also perform a PVCS total cost of ownership (TCO) analysis. Finally, the contractor will do a TCO/capability analysis of other packages and will report its findings to the State.

### Manage and Support Promotion Process

Promotion of a build into an environment requires associating a generic; relocate able software build with a set of configuration parameters for a particular environment. It may also require selective deployment of interface stubs in the case that a particular interface is not available in the target environment.

Contractor will oversee the CM process to ensure that both the code artifacts and the configuration artifacts are managed by the repository and are selected for a build on the basis of a common label. The PCO toolkit Build Tracker will be used to generate a build, and to generate environment appropriate promotion scripts. These scripts will be initiated at the successful completion of a build and will promote the build into the target environment. Upon successful promotion, the scripts will run functional regression tests to ensure that the build is correct. The full history of this process will be made available to project managers and stakeholders through the PCO toolkit Report Tracker.

### Provide CM Processes for Source and Data

Contractor has an eight-point process for CM:

1) Develop a detailed CM strategy and plan.
2) Establish the configuration management system.
3) Identify configuration items (CIs), the artifacts that will be subject to CM.
4) Establish checkpoints.
5) Create builds from checkpoints.
6) Manage scope change.
7) Manage project documents.
8) Report build and artifact status.

Other than creating the strategic plan, each of these components will be incorporated into MMIS through use of one or more of the elements of the PCO toolkit. Build Tracker provides the CM system, the version control engine, checkpoint creation and management, and build management. Reporting to stakeholders and team members is effected through use of Report Tracker. Scope change, once approved, is effected through entries in Ticket Tracker.

The strategic plan considers the types of process and the level of control pertinent to software products in each of the three major lifecycle phases: In-Development, In-Production, and Retired. A particular MMIS artifact will almost certainly exist in product in each of the three phases. The Retired phase version(s) are managed for historical audit ability. The In-Production versions are managed against the application of fix-packs and emergency functional upgrades. The In-Development versions are being managed toward a planned future release; perhaps the next functional point release, perhaps a more distant major functional upgrade release. The plan defines the level of oversight and control that is applied to each type of artifact in each lifecycle phase. The plan also concerns itself with whether large, slowly changing artifacts such as data loads are versioned in their entirety or as standard CM change sets.

### Manage all Configurable Items

The MMIS CM process starts from the identification of CIs. The complete set of artifacts associated with each and every system component is reviewed for inclusion, with the default expectation that every artifact will become a CI. Certain aspects of MMIS, such as the physical composition of a particular application server, cannot be managed directly. The MMIS CM system will deal with such situations by creating CI proxy artifacts, in this case an Extensible Markup Language (XML) composition description document. As appropriate, these proxies are included as part of a build and are automatically verified against discovered, external reality during a build.

As CIs are identified, they are added to the repository for the first time. At the point of addition, they are tagged with appropriate security credentials so that only appropriate groups and individuals have future access. Through use of the version control engine, CIs evolve under PCO control. At defined stages, collections of versions are labeled as a checkpoint, and then builds are affected. Checkpoints will have internal versions, allowing for errors in initial build specification to be corrected without unwanted ripple effects on the planned checkpoint model.

### Provide Support for CM and Promotion Tools

Contractor will work with the State DIT and other teams to deploy the State standard CM toolkit and will extend it as necessary and appropriate to support MMIS configuration management activities.

### Define Test Data Management Processes

MMIS will require data for training, testing, and other repeatable processes. The contractor will to support such activities through the provision and maintenance of versioned data loads. The loads will be created from converted legacy production data. These loads will be reduced in size as appropriate for the activity they will support and their identities scrambled as required for the protection of citizens' privacy.

Data loads will be version-controlled and will contain a schema version tag. Data load scripts will verify that the data load schema version tag is compatible with the target schema version tag before allowing a data load. Version tags are constructed such that a data load can proceed if all columns in the load file are present in the schema, and none of the columns not in the load file are defined as NOT NULL.

Data loads will be managed with the same diligence and rigor as the other MMIS artifacts.

**Provide Production Support Ticket Reports**

Support tickets will be entered into the reporting tool and categorized according to the PCO's promulgated issue definition and categorization standard.

The Contractor will use the reporting tool to incorporate ticket information with other production status information in MMIS project reporting."

**Oversight of Implementation Contractor**

A critical success factor in the implementation of MMIS is that the MMIS Implementation Contractor meets agreed schedules for delivery of documents, designs, test plans, source code, and other project artifacts. Further, the delivered artifacts must act as expected by the project team. They must implement the expected application architecture, implement the approved data model, conform to naming and coding standards, and deliver the expected business functionality of the current development cycle.

The contractor has experience working with distributed and remote teams to achieve timely and correct delivery of projects. Working with the MMIS Implementation Contractor and with State teams, the contractor will develop progress metrics and embed them in the MMIS Implementation Contractor's process. The state of these metrics will be regularly reported to the Project Control team who will use them to assess progress against schedules.

Should the MMIS Implementation Contractor experience difficulties in any technical development and/or implementation phases of the MMIS project, the contractor will bring its experience and knowledge to bear to engineer a timely solution to the problem.

**Coordinate, Interface with, and Complement Testing**

MMIS testing activities are tracked via the Test Tracker tool. The contractor will use the environment management plan and the Infrastructure Request Tool, as well as direct coordination with appropriate State teams, to make sure that test environments are available on schedule, that test data is loaded into the environment, that all scheduled tests are affected, and that the results are properly and completely captured.

The contractor will perform independent analysis of test results and create a defect trending report. The contractor will use this analysis to determine if defects are concentrated in individual artifacts or particular subsystems, with a view to proactively assisting the MMIS Implementation Contractor in early detection of poor design or implementation.

The contractor will ensure that all test results are made available to the project team through the timely creation of trouble tickets and through timely publication from Report Tracker.

**Coordinate, Interface with, and Complement Training**

The contractor will work with the MMIS Implementation Contractor and State project teams to plan for and deliver training environments at scheduled times in the project lifecycle. The environments will be refreshed with specifically developed training data loads which permit the trainee to execute the particular allotted scenarios of their training regimen.

The contractor will recommend that each trainee have isolated access to a private dataset within the overall load, so that trainees' progress is independent. Automated refresh tools will be created as needed to provide for timely refresh of data sets, in the case that particular scenarios require repeating.

Under direction of the project office, the contractor will perform other technical enablements required to support training: this might include acquisition of remote training facility, temporary connectivity establishment, temporary bandwidth enhancement, or other technical tasks.

**Coordinate, Interface with, and Complement Requirements Analysis**

Contractor will assist in the requirements gathering process with a particular focus on requirements that affect or require technical direction or needs. Requirements documents will be some of the first CIs identified and will be versioned from project inception. The contractor will work in concert with the PCO and the MMIS Implementation Contractor to start a requirements mapping process, identifying and labeling individual requirements through a formal process, perhaps using Rational's RequisitePro. As technical requirements and designs are created, a bi-directional trace will be developed between the functional and technical requirements specifications. The same process will be followed to create a trace between requirements and test cases, and between functional requirements and use cases.

As requirements changes are requested and approved through the scope management process of the project control office, the team will review and update the requirements store and the trace maps to uncover functional requirements that have no technical implementation, and/or technical requirements for which there is no longer a functional driver. These findings will be communicated to project stakeholders through a Report Tracker report and will trigger a requirements normalization process.

The contractor will also implement, on behalf of the project control office, an electronic signature process for requirements signoff and a signoff status report from Report Tracker.

**Support and Schedule Batch Cycles**

Contractor will work with the MMIS Implementation Contractor and State teams, such as DIT and Data Center Services, to create an automated, restart-capable, exception-based batch cycle for MMIS. This batch cycle will be rigorously structured to minimize processing bottlenecks, to minimize resource consumption, and to minimize required operator oversight.

**Oversee Production Batch Cycles**

During MMIS transition (initial launch to final conversion), the contractor will cooperate with State operations to schedule, operate and monitor the batch cycle, and to provide immediate troubleshooting and problem remediation.

The contractor will apply a continuous improvement approach to the MMIS batch, seeking to further shorten the cycle and diminish the cycle resource footprint. Working closely with State operations staff, the Contractor's team will pursue the goal of a fully automated, "lights-out" MMIS batch.

**Oversee Non-Production Batch Cycles**

During development and testing, the Contractor's team will oversee and assist in creating schedules for and operation of the MMIS batch cycle as it runs in non-production environments, applying the same processes, standards, and methods as in production.

The contractor will use the non-production environment to develop and test its recommended batch automation strategies before proposing production promotion. The team will also implement a secure authorized interface to individual batch components so that cycle elements can be tested in isolation.

### Oversee System Interface Schedules

Many MMIS interfaces will be implemented as a secure file-transfer, either preceded by a data export, or succeeded by a data import. The contractor will incorporate secure file transfer and file existence detection into the MMIS application architecture as the technology enablers of these interfaces. The contractor will apply the State Data Interface Gateway standard to its all interface implementations. All interface processing will be incorporated into the MMIS batch cycle. The contractor will work with the MMIS Implementation Contractor to ensure that a general load filter process is created to perform record inspection, record cleaning, and suspect record deferment before invoking the database. For records that actively managed by MMIS (as opposed to MMIS reference records) the data cleaner should use the same software artifacts as are used by the online system to perform these tests, thus ensuring that online and batch managed data are treated identically.

The management of the implementation of new and replacement interfaces to external systems is an area that requires intense management. For existing interfaces, both parties will be especially concerned that the new interfaces work and introduce no new schedule or regression effects. Additionally, where existing interfaces exist, the outside party may have constraints (personnel, test facilities/data, schedule availability) that will affect the schedule of testing and implementation. External system constraints may also affect the timing of production implementation. New interfaces face much the same hurdles, but with the additional complexity that there is not a working interface to serve as a quality benchmark, i.e., the old system can be used as an acceptance criterion for the new. All in all, interface implementation is a management challenge that must be aggressively addressed.

### Analyze Batch Cycle Performance

The contractor will use standard State tools to capture the batch cycle performance metrics. Applying experience from other government and industry projects, the team will analyze the cycle, will identify areas that seem capable of performance improvement, and will recommend techniques to achieve such improvement. Examples of performance tuning strategies include:

- Physical database reorganization
- Data archiving
- Concurrent execution of independent batch components
- Re-factoring of batch components to achieve earliest execution
- Multi-threading

### Disseminate Timing Metrics Tuning Recommendations

The contractor will continuously monitor the MMIS batch cycles using standard State tools and will collate daily metrics into a data warehouse. Using existing or newly developed reports, the contractor will make raw results, projections, and analyses available through the PCO.

### Support Batch Cycle Performance Improvement

Contractor will use standard State tools to capture the batch cycle performance metrics. Applying experience from other government and industry projects, the team will analyze the cycle, will identify areas that seem capable of performance improvement, and will recommend techniques to achieve such improvement.

Contractor will work with the MMIS Implementation Contractor and appropriate State teams such as DIT and Data Center Services to implement and test accepted improvement recommendations, to incorporate them into the MMIS batch cycle, and to measure and report actual performance improvements through the PCO toolkit Report Tracker.

### Task 3 Deliverables – Technical Control

The contractor shall monitor, control, and verify work progress and the quality of work level on the following deliverables in order to meet the project schedule and the overall project objectives. In addition, the Contractor will manage project risks by following appropriate procedures as defined in this contract whenever project schedules or overall project objectives are jeopardized.

Table below describes the deliverables for Task 3.

**Task 3 Deliverables**

| Deliverable | Specific MMIS System Project Implementation Contract Requirements, Deliverables or Objectives | Approvals |
|---|---|---|
| Capacity and Performance Plans and Assessments | The Contractor TCO team will oversee and assist in the planning, execution, and analysis of various system capacity and performance assessment and projections. Results of these activities will be summarized in several reports, including:<br>• System Capacity Analysis and Forecast<br>• System Performance Analysis and Forecast<br>• Hardware and Network Usage Models<br>• System Tuning Recommendations | DIT Technical Project Manager or designee |
| Code Standards | The Contractor TCO team will review, comment, and recommend a suite of code standards for software development and evolve those standards as required. | |
| System Software Upgrades and Maintenance Support | Contractor's TCO team will assess available software "patches" and upgrades and recommend implementation strategies and schedules. | |
| Database Support | Contractor's TCO team will provide consultation and assistance in creating and maintaining all the necessary database "instances" and data models required to support the project. Deliverables will include but not be limited to:<br>• Database security policies and strategies<br>• Performance analysis<br>• Capacity analysis<br>• File placement strategies<br>• Data integrity policies and strategies<br>• Database creation scripts<br>• Database change process, tools, and controls<br>• Physical disk space management standards and practices | |
| Disaster Recovery Plan | Contractor's TCO team will assist in the development of a disaster recovery and business continuity plan, including establishment of standards and thresholds for the following:<br>• Outage time<br>• Minimum configuration requirements<br>• Disaster recovery site requirements<br>• System restoration procedures<br>• Data recovery and system synchronization | |
| System Data Definitions | The TCO team will establish the following:<br>• System reference data requirements<br>• "Seed" data requirements | |
| Data Conversion Assistance | The TCO team will assist in the following data conversion activities:<br>• Legacy to "to be" data model mapping<br>• Data dictionary<br>• Data loading utility use and optimization | |
| Application Security Environment | Contractor's TCO team will oversee and assist in the publication of Application security policy | |

| Deliverable | Specific MMIS System Project Implementation Contract Requirements, Deliverables or Objectives | Approvals |
|---|---|---|
| Configuration Management | The Contractor TCO team will oversee development implementation, and administration of various configuration management policies and practices related to changes in the following:<br>• System environments<br>• Application system functionality<br>• Database configuration<br>• Schedule management | |
| Systems Engineering | The Contractor TCO team will provide assistance in the following systems engineering activities:<br>• Version control repository and tools administration<br>• Web tools support and evaluation<br>• Automated build processes<br>• User security profile administration<br>• Configuration management<br>• Trouble ticket analysis<br>• Testing<br>• Requirements analysis<br>• Batch scheduling, operation, and performance<br>• System interface operation | |
| Mentoring of State staff | Any State personnel assigned to the project in a PCO role will receive on-the-job mentoring from the Contractor PCO team as the individual's talent, skills, knowledge, and experience warrant. | |

## 1.2 Roles and Responsibilities

### 1.201 CONTRACTOR STAFF, ROLES, AND RESPONSIBILITIES

The State is having one vendor to serve as the prime contractor for these functions. Critical roles and corresponding qualifications are documented below. Desired experience and skills for each position are listed in Appendix D including the projected number of months these key resources are to be available primarily during the Phase I – Design, Development and Implementation (DDI). The state reserves the right to adjust including reducing the hours of the key resource staff based upon giving the contractor 30 days notice. The following positions are considered to be key resources for this contract. The Contractor will provide the following for the MMIS PCO/IV&V Contract, after agreement from the State on the specific personnel to fill each position for the duration specified in **Section 1.6 Compensation** and Payment.

The designated key personnel for whom the contractor has submitted and agreed to are:

- PMO Manager – Paul McNally – PM Assurance Services, LLC
- IV/V Project Control (PCO) Manager – Jeff Tate – Jefftate LLC
- Project Change (Release) Manager – Sivakumar Sanyasi – Sanyasi Inc.
- Project Scheduler – Michael Mayes – Kunz Leigh and Associates, Inc.
- Infrastructure Mgr – NA
- Systems and Network Support Mgr - NA
- Data Management (Loading, Conversion, Utilities) – Marty Tompkins – Kunz Leigh and Associates, Inc.
- Sr. Quality Assurance Manager – Charles Veverka – Kunz, Leigh and Associates, Inc.
- Quality Assurance/Test Manager – Jim Kunz – Kunz Leigh and Associates, Inc.
- Quality Assurance and Testing – Lloyd Kintz – Captec

The contractor understands that Key Personnel are critical and agrees that, to maintain the continuity of the project, key personnel will not be removed or reassigned without the State's prior written approval.

PMO Manager

This individual coordinates the activities of the MMIS Replacement Project, CHAMPS, including the Project Control Office, the Department of Community Health, the Department of Information Technology, the Michigan Public Health Institute, and the MMIS Implementation Contractor, CNSI.. In this capacity, the PMO Manager oversees the MMIS Implementation Contractor's and the State's compliance with the State's Project Management Methodology (PMM) and establishes the strategy for monitoring the State's and the MMIS Implementation Contractor's compliance and performance under the MMIS Implementation contract. This individual is primarily responsible for delivery of Project Control Office (PCO) Statement of Work responsibilities, including Contractor Management, Schedule Management, Resource Management, Issue Management, Communication Management, Risk Management, Performance Monitoring, Time Tracking, and Work Approval. The role requires experience in software development, project management, in-depth knowledge of IT systems and architecture, and proven competency in managing large multi-year complex systems integration projects. This individual manages the enterprise view and the interdependencies between projects to achieve business objectives and focuses on interaction at multiple levels and partners. The PMO Manager uses MS Project, MS Excel, MS Word, MS PowerPoint, Remedy and the Tracker Tools or the comparable tools within the Contractor's or Project's alternate tool set. The individual is often consulted to resolve escalated issues, create plans to mitigate risk, and remove roadblocks.

IV/V Project Control Office (PCO) Manager

This individual works under the direction of the PMO Manager and coordinates the activities of the Project Control Office. This individual is responsible for monitoring the performance of the MMIS Implementation contract by the State and the MMIS Implementation Contractor. The PCO Manager will oversee the MMIS Implementation Contractor's and the State's compliance with the State's Project Management Methodology (PMM) and is responsible for establishing the strategy for monitoring the MMIS Implementation Contractor's compliance with and performance of the MMIS Implementation contract. This individual is responsible for the delivery of Project Control Office (PCO) responsibilities – Vendor Management, Schedule Management, Resource Management, Issue Management, Communication Management, Risk Management, Performance Monitoring, Time Tracking, and Work Approval. This person will also coordinate all activities associated with Task 3 Independent Validation & Verification Services across State and the staff of the MMIS Implementation contractor. The role requires experience in software development, project management, in-depth knowledge of IT systems and architecture, and proven competency in guiding multiple simultaneous releases and vendors as part of large system development projects. This individual manages the enterprise view and the interdependencies between projects to achieve business objectives and focuses on interaction at multiple levels and partners. The PCO Manager uses MS Project, MS Excel, MS Word, MS PowerPoint, Remedy and the Tracker Tools or the comparable tools within the vendor's alternate tool set. The individual is often consulted to resolve escalated issues, create plans to mitigate risk, and remove roadblocks.

Project Change (Release) Manager

These individuals manage detailed project plans and schedules for the day-to-day tracking and oversight of project releases using the Project Management Methodology (PMM). These individuals create and use tools to monitor and report on schedule progress, resource utilization, issue resolution/escalation, and process adherence. These individuals also gather and report on vendor performance and compliance metrics. The project release managers are skilled users of MS Project,

MS Excel, MS Word, MS PowerPoint, macros, charting, Remedy and the Tracker Tools or the comparable tools within the vendor's alternate tool set, which enable them to monitor and report on releases. These individuals have a software development background and have developed and managed releases on large systems. These individuals are often consulted to resolve issues and to address specific release roadblocks. The PCO Release Managers are responsible for managing the release delivery within specified parameters of cost, time, and quality.

Project Scheduler

These individuals update schedules for day-to-day tracking. These individuals support Release Managers using project management tools, techniques, and methodologies such as MS Project, MS Word, MS Excel, MS PowerPoint, Remedy and Tracker Tools or the comparable tools within the vendor's alternate tool set to assist in the monitoring of individual tasks. A Project Scheduler has a software development background and has developed on large systems. A PCO Release Manager directs the daily activities of the Project Scheduler. The Project Scheduler does many of the administrative tasks needed to monitor and report on the status of a release.

Infrastructure Team Manager

This individual works with the System Architect and team to coordinates the activities of the Infrastructure and is responsible for staffing issues, providing technical direction to various sub-teams (e.g., Data Conversion, Configuration Management, System DBA). The role requires a technical background in RDBMS, SQL, server administration, shell scripting, automation techniques, conversion processes, SEI CMM processes, productivity improvement and enterprise system management. This individual provides direction, solutions, improvements and suggests/designs/improves tools and processes to deliver services to the project teams dependent on Infrastructure team capabilities. The individual is often consulted to solve technical issues, plan/manage environments, create/maintain overall development processes/standards, and provide the overall vision and guiding principles for the team. This individual participates directly at the project management level, providing proposal/plan responses, estimates, assumptions and task definitions. The team manager has overall responsibility for the management of the Production, Development, Training, Testing, etc. environments and is involved directly in their configuration, capacity planning, maintenance, etc.

Systems and Network Support

This role provides troubleshooting expertise related to the connectivity, servers and user desktop environment of the MMIS application(s). Broad experience in network configurations, servers, routers, firewalls, web load balancers, network capacity planning, etc. is required. Additional skills required are knowledge of Windows software products, Internet Explorer, Development environment, and relational databases. This team also provides desktop support for the developers on the project and is tightly connected to various DCH/DIT support groups (Desktop, DCH Network, DCO, Model Office, Technical Support, Technical Services, etc.). Other responsibilities include administration of file servers used to support development efforts, assistance with build scheduling, backup of servers, and general assistance with application infrastructure issues. Members of this team will be dispatched to work "hot" issues requiring on-site troubleshooting and/or coordination of support efforts.

Data Management (Loading, Conversion, Utilities)

This role works very closely with the Infrastructure team manager. The focus of this role's activities is on the co-ordination, loading and configuration management of seed (control) data (data used by the application to control functionality, drop-downs, system values, etc.), and conversion of legacy data into the new MMIS system. Members of this team will have experience with SQL, RDBMS, DDL and the MMIS seed data/system tables. Some MMIS application knowledge will be needed to reconcile value problems, especially with user/security setup in the application security tables. This team is an

integral part of database creation/refreshes and is the key source for populating the various areas used by Testing, Development, Training, etc. Data reduction/extraction programs are created, maintained and executed by this team to produce reduced databases for testing and/or demonstration purposes not requiring full Production data. This team will also have a key role in Implementation, especially data conversion activities that result in new system values merging with current Production values. Ability to multi-task and manage/coordinate many simultaneous environments for multiple concurrent development and maintenance releases is critical.

Sr. Quality Assurance Manager

This individual may perform a number of IV&V services. They should have detailed knowledge of Medicaid, Medicare, and commercial insurance operations, payment systems, and development of Medicaid policy and procedure. Experience with large-scale data conversion projects with multiple system interfaces is a plus. Experience in documenting business procedures, test plans, issues, change requests, and requirements may be required. This individual will oversee and direct the development of user acceptance testing and recommendations for business procedure changes during the implementation. This person will also assist in resolving defects in the new system during implementation.

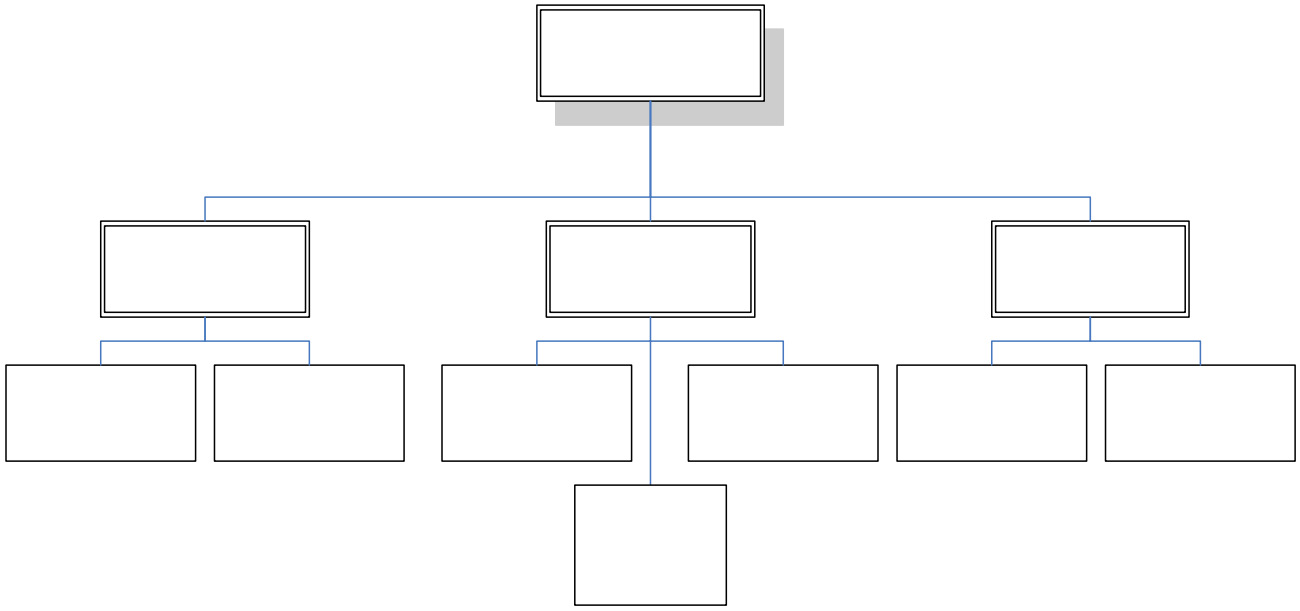
Quality Assurance / Test Manager

This individual ensures the validity and accuracy of the deliverables produced by the MMIS Development and Implementation Vendor. This person also verifies the accuracy and completeness of test data and scenarios then attests to the accuracy of test results, ensuring the functional and technical requirements are achieved. Experience with MMIS system implementations, Medicaid policy and procedures, including claims processing and payment processing, as well as general "Medicaid industry" knowledge, are vitally important for this role. In addition knowledge of Medicare payment methodology and processing rules as well as commercial best practices and knowledge of HIPAA are essential. This individual should also have experience in disaster recovery testing.

Quality Assurance and Testing

This individual may perform a number of IV&V services. They should have detailed knowledge of Medicaid, Medicare, and commercial insurance operations, payment systems, and development of Medicaid policy and procedure. Experience with large scale data conversion projects with multiple system interfaces is a plus. Experience in documenting business procedures, test plans, issues, change requests, and requirements may be required. This individual may perform systems analysis on the MMIS system to be transferred to Michigan, including recommendations for business procedure changes during the implementation. This person may also assist in resolving defects in the new system during implementation.

The following is a diagram of the expected project organization, including State, IV/V Contractor and MMIS Implementation Contractor resources:




The following positions are identified as **optional resources under the terms of this AGREEMENT:**

Siebel Architect
This person will have responsibility for coordinating final requirements for the customer call center, and working with the implementation Contractor to determine the best way to configure and implement the software associated with the call center. This individual must have extensive knowledge of customer call center processes, Siebel software, design of Siebel call centers currently in production, and requirements gathering for development of production call centers.

FileNet/Document Management Architect
This person will have responsibility for coordinating final requirements for the MMIS document management system, and working with the implementation Contractor to determine the best way to configure and implement the software associated with document management. This individual must have extensive knowledge of document management processes, FileNet software, design of FileNet document management systems currently in production, and requirements gathering for development of production document management systems.

Oracle Financials Architect
This person will have responsibility for coordinating final requirements for the Oracle Financials implementation within MMIS, and working with the implementation Contractor to determine the best way to configure and implement the Oracle Financials software. This individual must have extensive knowledge of business financial systems, Oracle Financials software, design of Oracle Financial application systems currently in production, and requirements gathering for development of financial and payment systems.

Work Flow Coordinator
This individual coordinates the activities of the Work Approval and Release Planning process. The role requires participation in three groups – Triage (emergency Production problems), Ticket Assessment (non-emergency Production problems), and Release Planning. This individual is detail oriented, follows set criteria, but must be able to lead the review of problem tickets as the facilitator of the Ticket Assessment Group. The Work Flow Coordinator communicates with and creates a working relationship with all project members from end users to the DIT Project Manager. This individual uses MS Project, MS Word, MS Excel, MS PowerPoint, Remedy, and Tracker Tools or the comparable tools within the Contractor's alternate tool set to assess, route, and monitor throughput of the tickets (maintenance

requests). The role requires fundamental project management knowledge and experience. This individual may seek guidance from more experienced project managers. The Work Flow Coordinator is the "Gatekeeper" for all tickets and is responsible for packaging them for review.

MMIS Configuration Management

Members of the MMIS Configuration Management team are responsible for administering the PVCS Data Repository, defining collections and branches of artefacts as working and production releases, and enforcing configuration management processes on the MMIS project for new development and maintenance activities. The team members create, modify and improve automated build processes, configuration management tracking utilities/applications, configuration management reporting utilities/applications and any other automated productivity tools used for building and/or tracking the configurable items within the MMIS application(s). A subset of the team also assumes responsibility for supporting and modifying an "IT Remedy" installation, which is customised to automate, facilitate and enforce the development process governing change control, work flow and promotion to production procedures. Some team members are also leveraged to support various other project tracking tools and are often requested to provide production ticket information/reports and other program management data to DCH/MMIS leadership. Basic knowledge of the java and database application components is required and some troubleshooting is provided to project developers regarding compilation errors, etc. Other skills include PVCS, Data Repository, SQL, scripting, Active Server Pages, HTML, DOS Batch scripting.

Application Architecture

Members of this team are responsible for reviewing problem areas of the application, improving adherence to good coding practice and ensuring that the application components produced by developers will be robust enough for Production to operate smoothly and without excessive maintenance effort. Performance tuning (efficient code, index recommendations, tuning recommendations) is a key responsibility. Other areas of concern addressed by the team include: commit/restart capability of batch processes, modularity/maintainability of design and code, adherence to standards, and error handling. This team is consulted heavily by developers. SQL, relational database design, Java, JSP, J2EE architecture and implementation, JDBC, and web server technologies, are required skills, however, team members are most valued for their ability to improve system performance and reliability through robust, efficient coding techniques and mentoring.

Environment Planning and Preparation

This role is intended to be the focal point for communications between the infrastructure team and other project teams requiring their services. This individual must be able to understand the impact of co-ordinating multiple development and maintenance database regions/application versions simultaneously. Further, this individual must co-ordinate planning for region creations, refreshes, data loads, etc. as required to meet project deadlines and ever-changing conditions/requirements. This individual will work directly with Development, Testing, Training,

Data Readiness and other project groups to provide and manage the available databases and applications required to support all aspects of the MMIS initiative. Multi-tasking capabilities, configuration management experience, project management experience, and an understanding of large-scale development efforts are required. This individual must possess great attention to detail and be able to determine when planned activities conflict or other repercussions can cause difficulty or require contingency planning.

System DBA

This team is responsible for the database instances, database system configuration and database maintenance for all Production, Development, Testing, and Training environments. Tasks include creation and configuration of database instances, disk space management, capacity planning, business resumption/disaster recovery, application of tuning improvements, efficient management of data/index files, server administration, shell scripting, system/database security and general system operations. This team also configures and administers the application server, load balancers, and web server components of the online application. Individuals on this team will be sought out for expertise,

consultation and solutions by all project development groups. Required skill sets include server administration; shell scripting, Java, SQL, and DBA expertise, including advanced database management and configuration knowledge.

Data Modeling
This team is responsible for analysis through implementation of database change requests received from developers. The team is responsible for the tight control and integrity of the MMIS data model and all applicable standards and conventions. The team must be able to create the application database from the model and audit any instances for conformity. Expertise and experience in tuning and efficient database design is also a necessity and a main responsibility. Team members also participate greatly in seed data activities and have a broad understanding of the data values key to the application.

Batch Support/Scheduling
This team will provide primary support for nightly execution of Production Batch. Members of this team will also provide system expertise and have advanced knowledge of the batch programs and system interfaces. Team members will apply expertise (as first line response) to resolve batch failures requiring data correction or other situations requiring action to restart/resume processing (such as tactical index creation). Knowledge of the application, its historical beginnings and usage in the local offices is expected, in addition to expertise as a DBA. The team also manages the schedulers and has expertise in the tools. The team will also provide valuable input into batch performance and tuning, as well as provide Development and Maintenance teams with timing information and recommendations. The team assists and participates in performance improvement efforts and new release planning to advice on batch topics and the batch window.

Remedy Processing, Documentation, Administrative Support, Impact Analysis Tool
This role is intended to provide a single point of contact for Remedy tickets assigned to the project team. Also, when specific documentation (such as procedures, standards, audit responses, etc.) are required, team members gather, create or coordinate that documentation. General administrative support is also provided and encompasses the maintenance of on-call schedules and other team communication/coordination. The team also assumes responsibility to develop and maintain the in-house impact analysis tool (SQL, Java, and general MMIS application knowledge required).

Web Tools Support
This role is intended to provide the MMIS governance team with tool support (specifically, PCO Web tools) as well as the integration of infrastructure tools, applications and utilities with the framework of the MMIS suite of tools. A DIT standard set of project control tools and processes will be used to monitor and control all MMIS work. As a result, this standard set of tools will be established for the MMIS environment. This team will support this set of tools and provide ongoing direction regarding improvements to the tools. Knowledge of servers, RDBMS, Crystal Reports, Cold Fusion, IIS, Visual Basic, Visual InterDev, Active Server Page, HTML and general web concepts is required.
If the contractor is proposing an alternate set of tools, the contractor must identify the required skills for this position using the alternate set of tools and how the proposed web tools support team members meet these requirements.

### 1.202 STATE STAFF, ROLES, AND RESPONSIBILITIES
It is anticipated that 2-4 State staff will be added to various areas of the PCO. Their functions will vary as skill sets are learned and enhanced. It is the State's intent that by project completion the knowledge and skills required to operate and manage the PCO could fully reside with these staff.

The Michigan Department of Information Technology (MDIT) and the Department of Community health (MDCH), have assigned a Project Manager and a Contract Compliance Inspector (CCI) who have been authorized by Purchasing Operations to administer the resulting Contract(s) on a day-to-day basis during the term of the Contract. However, administration of any Contract implies no authority to change, modify, clarify, amend, or otherwise alter the terms, conditions, and specifications of such contract. That authority is retained by Purchasing Operations.

**The Project Manager for this contract is**:
Ken J. Seyka, Client Service Director
Michigan Department of Information Technology
Bureau of Agency Services
Phone: (517) 335-0210
Email: SEYKA@Michigan.Gov

### 1.203 OTHER ROLES AND RESPONSIBILITIES

The intent of the PCO is to utilize as many State processes as possible. With that in mind, some resources within both DCH business units and DIT may be needed to understand current processes in place. These staff may be utilized for short periods of time to help PCO staff understand applicable processes and procedures.

### 1.301 METHODOLOGY AND APPROACH

Reserved.

### 1.302 REPORTS

Contractor will provide a weekly status report for all PCO/IV&V resources assigned to this MMIS project to the MMIS DIT Project Manager throughout the life of this project.

Contractor shall also provide a monthly status report that must contain the following at minimum:

A. **Hours**.
Number of hours expended during the month and the cumulative total to date for the project.

B. **Accomplishments**.
Detailed description of what was worked on and what was completed during the current reporting period.

C. **Funds**.
Detailed description of the funds expended during the past month, and the cumulative total to date for the project.

All reports and written deliverables for this Contractor shall be delivered to the MMIS DIT Project Manager, or designee, and must be inspected for accuracy and adequacy prior to delivery.

## 1.4 Project Management

### 1.401 PROJECT PLAN MANAGEMENT

Contractor shall work jointly and cooperatively with the State and its MMIS Implementation Contractor regarding all Project Management matters for this MMIS replacement project.

Contractor must submit an updated Project Plan at least once each month, or as directed by the DIT Contract Compliance Inspector, or the DCH or DIT Project Manager or Team Lead. This Project Plan must also be coordinated with the State's MMIS Implementation Contractor prior to submission to the State for final approval.

The Project Plan must identify both Contractor and State tasks and responsibilities, as well as a work schedule. At a minimum, the Plan must contain the following items or reasonable substitutions:

A. Project team and Organization

The Work Plan must cover the entire project and each phase, including a description of how this Contractor and the MMIS Implementation Contractor will organize, deploy, and administer its project team.

B. Project work plan that must include the following:

1. A work breakdown structure of the major phases of the project, accounting for all tasks, deliverables and milestones.
2. A timetable for each task, deliverable, and milestone.
3. Tasks, resources and timetables for the design, development, testing and implementation of the entire MMIS solution, including all interfaces and other agency resources.
4. MMIS Implementation Contractor and the PCO/IV&V Contractor's resource loading by task and role.
5. A description, by phase, of the number of Contractor personnel (including subcontractor personnel, if applicable) to be based at the Contractor's project site.
6. State resource loading by task and role. Note that any use of State personnel must be consistent with the description of the available state project team described in this Contract.
7. Critical path with parallel and dependent project tasks.
8. A summary of totals both Contractors and State hours by phase.

C. Any assumptions or constraints identified by the Contractor. If there are needs for State staff in addition to those referenced in this Contract, the Contractor must note this need at this point.

D. A proposed project schedule must meet the State's technical and business requirements as specified in the Business Area Requirements and the Technical Requirements, within the time frames as approved by the State Contract Compliance Inspector and the Departmental Project Managers.

E. If the Contractor cannot meet the proposed schedule, then it must identify any shortcoming in its system and/or staff resources, and provide detailed explanation of why it believes the schedule to be unrealistic. An explanation of how the schedule provides for the handling of potential and actual problems, this must also include general plans for dealing with the slippage of critical dates.

F. The State may, at its sole discretion, change or adhere to the proposed schedule.

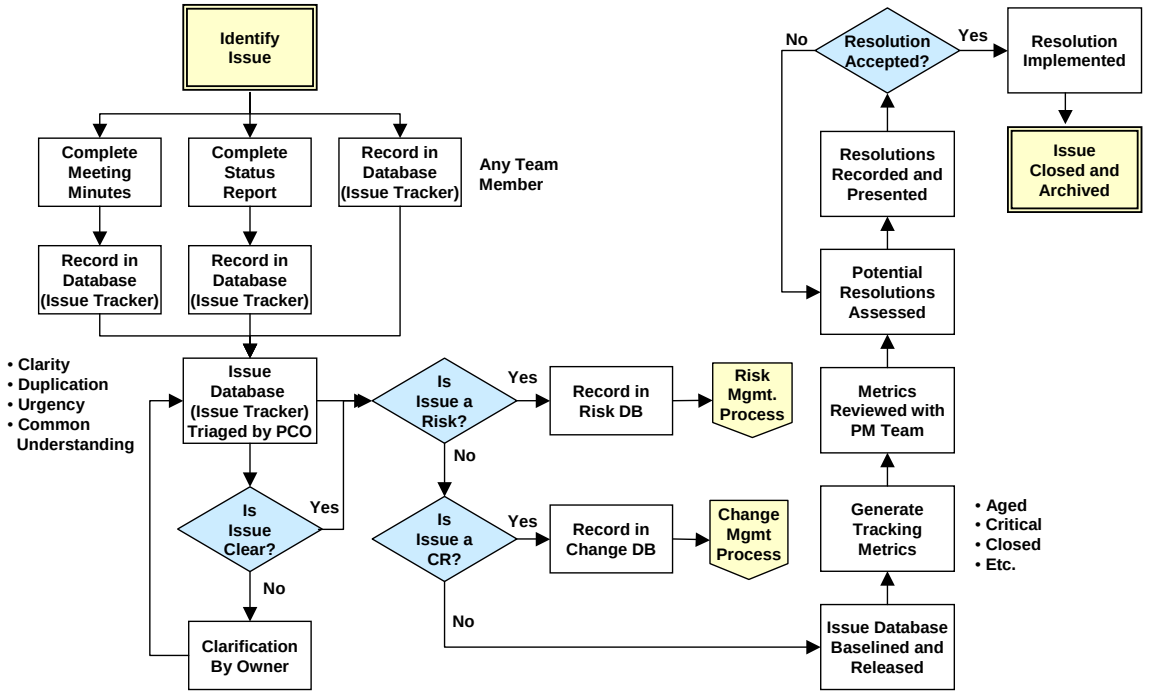
G. Once updated and approved by the state, the approved Project Plan will be turned over to the contractor who must maintain it throughout the remainder of the project.

**1.401 ISSUE MANAGEMENT**

Contractor recognizes that issues management is essential to maintaining an efficient project management process and as a critical component of contractor's risk and change management approaches. The importance of identifying, documenting, and tracking project issues is central to the promotion of timely resolution and the avoidance of impact on project tasks or deliverables. In the contractor's methodology, an issue can be defined as a condition that exists (or may exist) that could change the assumptions, requirements, or constraints for the project or that could cause reevaluation of the project's processes. Therefore risks present the following concerns:

- Unresolved issues may open a project to risk.
- Failing to close issues on a timely basis—"hoarding"—shortens the time management has to execute corrective action and gives the conditions that need correction time to grow. This in turn can significantly increase the chances of project failure.
- Trends in issue aging and volumes indicate the project's correctness, risk, and progress. Issue management begins when someone suggests a matter should come to the attention of the project management team. Management may conclude the matter is not a concern—but will more often decide otherwise. The matter might be a "real" issue worth monitoring, or it may represent a need to

bring change to the project. This procedure is therefore a method for gathering information at the front end of the general change control process. It also allows for escalation of an issue to a risk (see Figure below).




**Issues Management Process**

The issues management process is structured to identify and transmit problems to the Department of Information Technology (DIT) Project Manager and the Design, Development, and MMIS Implementation (DDI) Contractor's project management in a way that promotes timely, proactive identification of issues and effective tracking and resolution. Throughout the process, project management and team members will be consulted by the contractor to facilitate the acquisition of adequate input for exploring options. Issues can arise internal to the project or be the result of external conditions.

Many of the issues, especially during the initial phases, will be pulled directly from meeting minutes and status reports. This procedure will promote a streamlined review cycle and tracking process, while minimizing duplication in transcription. The opportunity to add an issue directly into the PCO Web Issues Tracker will still remain, and mechanisms will be in place to notify the PCO project manager and the MMIS Implementation Contractor project manager of the addition of a new issue to ensure appropriate review and escalation when needed. This will also maintain the integrity of the issues database throughout the project lifecycle.

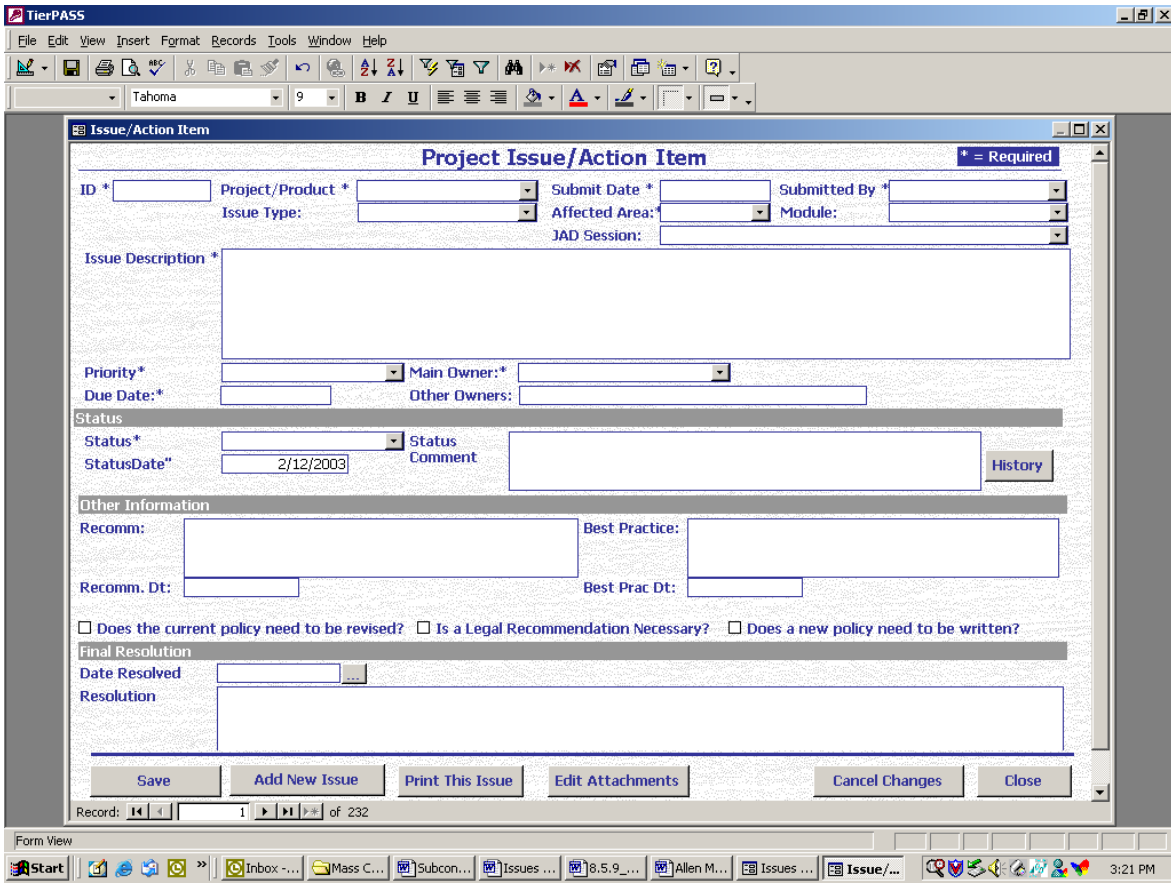
Issues may take several different paths depending on their nature. Both internal and external factors play a part in creating issues within projects. Issues may arise from many sources, but, categorically, impacts to cost, schedule, staffing, process, quality, customer expectations, and technical considerations can all generate issues. However, both paths will use the same structure to assess, resolve, and if necessary escalate issues.

Issues not formally reported can be neither managed nor tracked. Therefore, any discovery of underlying issues not being reported should be dealt with to ensure that each of the project team members have both the ability and responsibility to report them.

The contractor will use the PCO Web Issue Tracker as the primary system for tracking issues. The issues database is designed to allow each team member to identify and enter an issue, ensuring they are tracked and resolved or escalated. Issues will be logged in a tracking database and reviewed by the project management for completeness, relevance, and duplication. Key information required for completion of an issue includes at minimum:

- Unique ID
- Date Submitted
- Target Date
- Submitter
- Owner
- Assigned To
- Issue Title
- Issue Description
- Category/Functional Area
- Associated requirement (if applicable)
- Impact analysis (schedule, functionality, quality, performance)
- Priority
- Complexity
- History
- Resolution
- Date of Resolved
- Associated Change Order (if applicable)

Figure below provides an example of an Issues Tracking input screen that contractor have used in past projects as part of contractor's PMM.




**Sample Issues Tracking Input Screen**

The current status of project issues and any resolution will be updated on a regular basis with issue owners. The status of the issue might also be changed from "open" to "resolved" and the resolution noted. Critical issues will be reviewed with the project management team at set weekly meetings using the issues report, at which point possible solutions might be explored or potentially escalated to MMIS Steering Committee, Risk Management Team, or Change Control Board (CCB) if a change to the scope of the project is required. If the issue is escalated to the CCB, the status will be changed to reflect that move, and the process for scope change management will be invoked. The status of the issue might also be elevated to a risk for which a probability and severity will be assigned and a mitigation strategy considered.

Issues that pose a significant risk follow the process previously described, but may instead become a change request if a required modification is identified as impacting the scope of the project or presenting a system enhancement for a future release.

If additional information is required, the identified owner continues to assess the issue, or it may be assigned to an analyst to investigate and report options back to the project team. In many cases this will require input from the MMIS project team members.

For issues that are escalated, an issues paper will be developed and presented to the appropriate committee. The paper will provide an analysis of the issue and the implication of optional resolution approaches. The MMIS Steering Committee would provide the final decision on the resolution for critical issues.

Communication is critical to successful issues management. While all issues will be available to the project management team, key issues requiring management attention are discussed with MMIS leadership, and are also presented as part of the weekly status reports.

Metrics are developed and presented as part of project reviews and metrics management indicating the effectiveness of issues management, issue status distribution, and issues aging. Additionally, issues summary reports will be generated and presented to the MMIS Steering Committee indicating the current and phase-to-date status of issues in both a tabular and graphical format in order to more easily display the information and illustrate trends and the effectiveness of the process.

Issues not resolved by a targeted date or specified timeframe will be escalated to a risk. These triggers will be established with the MMIS Steering Committee. In addition to the aforementioned communication vehicles, critical issues are also discussed during formal phase end reviews. Central to the Contractor's issues management approach is visibility and rigorous tracking and oversight.

Resolved issues are also reviewed as part of "lessons learned," to promote effective knowledge transfer to all team members and to facilitate a continuous process improvement model.

The issues management will be initiated on Day 1 and will continue throughout the life of the MMIS project. All issues and action items will be resolved prior to project closeout.

### 1.402 RISK MANAGEMENT

Project Management Institute (PMI) discussions of risk management recognize the effects of timely reaction by stressing planning as a prerequisite to identification. Analysis and further planning then lead to effective monitoring and control. Contractor's risk management planning blends the PMI risk management processes into a continuous methodology to be applied throughout a project's lifecycle.

The contractor defines a risk as an event or condition that may cause a negative effect on the project. Risks are measured in terms of impact against cost/schedule/quality (severity) and the likelihood of the condition or event occurring (probability). The thrust of contractor's risk procedure is to reduce the level of uncertainty by increasing the likelihood that the project manager and MMIS stakeholders are aware of all possible outcomes and then applying analytical methods that increase the accuracy of the estimates for probability and impact.

This procedure requires identifying the events that could occur and then minimizing the effect of the events should they occur with effective mitigation strategies.

The contractor's methodology defines risk as any issue, real or potential, that could affect the ability to meet either the time, financial, or quality goals of the project. Some examples include changes in project scope, new executive sponsorship, or changes in business strategies. By identifying and addressing these risks throughout the project lifecycle, contractor can anticipate the impact to the bottom line of the project well in advance and prepare effective mitigation plans with MMIS management, the DIT Project Manager, the MMIS Implementation Contractor, and key MMIS stakeholders. Risk management is a critical component of Contractor's overall PMM. As with the other key aspects of contractor's approach to project management, contractor's risk management strategy is based solidly on PMI risk management standards. The contractor defines a risk as an event or condition that may cause a negative effect on the project. Risks are measured in terms of impact against cost/schedule/quality (severity) and the likelihood of the condition or event occurring (probability). The thrust of contractor's risk procedure is to reduce the level of uncertainty by increasing the likelihood that the project manager and MMIS stakeholders are aware of all possible outcomes and then applying analytical methods that increase the accuracy of the estimates for probability and impact. This procedure requires identifying the events that could occur and then minimizing the effect of the events should they occur with effective mitigation strategies.

Contractor's Risk Management approach will use five primary mechanisms for assessment and reporting:

1. Risk Management Plan – This plan may be a subset of the Project Management Plan (PMP). It includes both the strategy for managing risks, and the identification and analysis of the individual

risks. Both the Risk Management Plan and the PMP are revised at set stages throughout the project and provide a solid foundation for reporting risks to the broadest range of potential project stakeholders

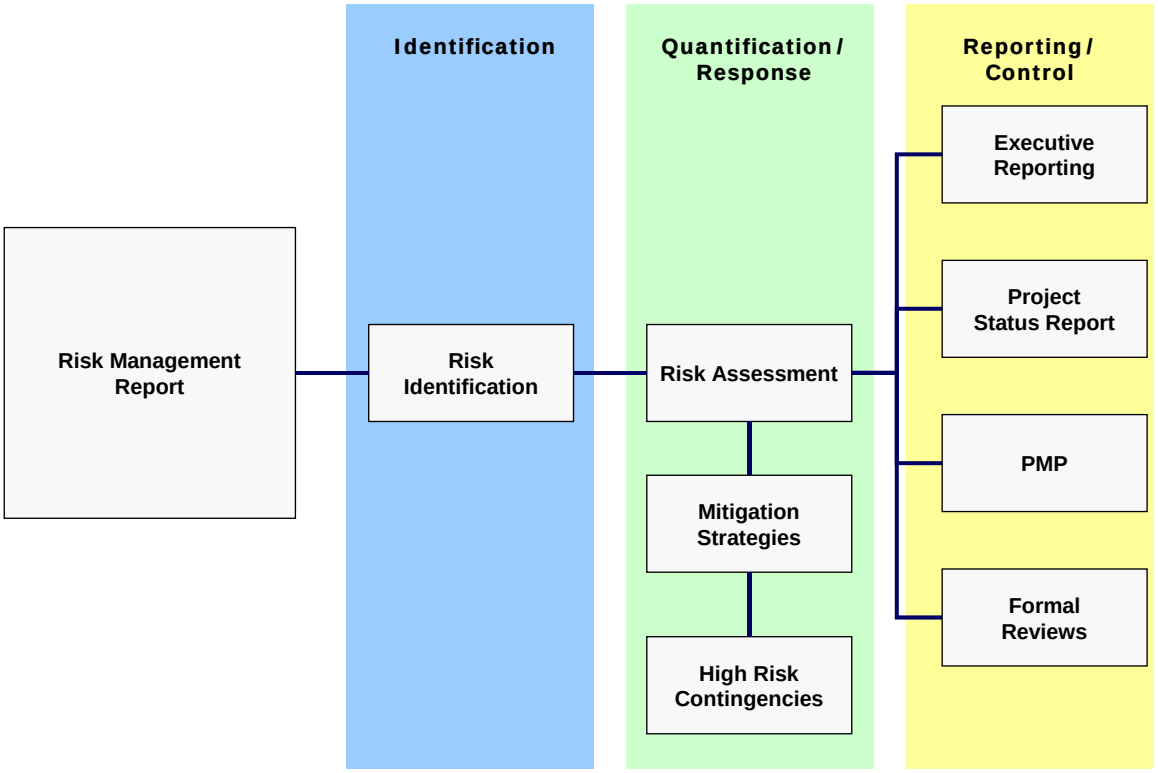
2. Detailed Assessment of Risks – This analysis is conducted within an established framework of potential areas of risk to promote comprehensive identification and analysis of potential project risks in critical categories. The Contractor uses a set framework for this analysis, but it may be tailored to address specific areas of potential risks particular to the project scope or environment. The categories in the framework include:
    - Project expectations
    - Plan and schedule
    - Change requests
    - Organizational management factors
    - Business domain knowledge
    - Technology factors
    - Project content/stability
    - Development environment
    - Project staffing

3. Risk Barometric Chart – This chart is a graphic depiction of the current risks, mapped against potential impact and probability of occurrence.

4. Highly Rated Risk Listing – This list identifies the worst hazards currently foreseen by the project team. It is part of the PMP but is presented in project reviews as a separate summary.

5. Project Management Tools – These tools will include the PCO Web Issues Tracker to provide effective risk tracking to augment the risk management process in order to promote robust historical tracking of risks, reporting, and escalation.

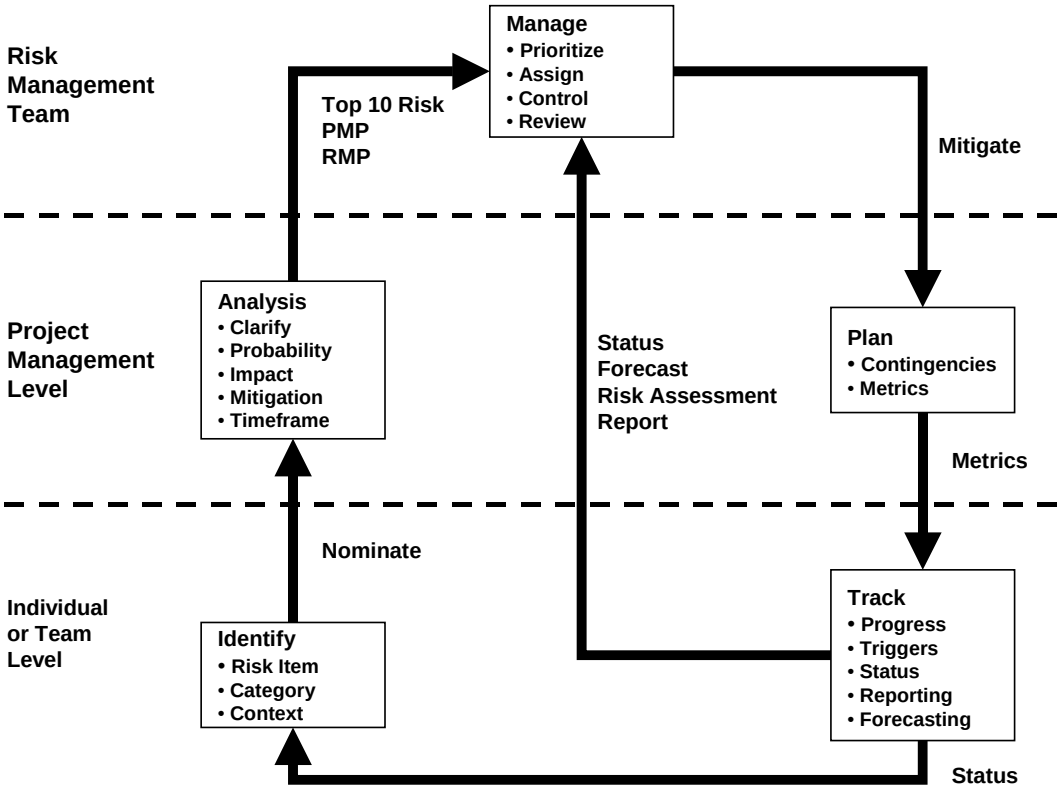
Communication and tracking are essential in each of the project management processes and critical to the effectiveness of risk management. Risks identified but not formally reported and assessed are no different than unidentified risks. Risks are monitored and tracked using metrics as defined in the PMP. Care is taken to correct for deviations from the risk mitigation plans. Figure below presents the flow from risk planning to risk reporting and control.




**Risk Reporting**

Risks are reviewed at periodic risk management meetings using the Risk Assessment Report (RAR), in formal reviews, and any time risks are elevated and critical in nature. Risks are tracked in the formal briefings on status carried out via the Risk Management Plan. The implementation of an effective communication plan and structured review will also support the identification of risks and their ongoing tracking and reporting. A history of actions taken on identified risks is also captured as part of the risk tracking and reporting.

The Contractor uses an incremental and iterative approach throughout the lifecycle of the project to assess, quantify, and mitigate the impact of risks throughout the project, not just at milestones. The primary vehicle for documenting the risks and mitigation approaches is the Risk Management Plan. By using this type of approach, the project management team can make decisions about the project can be made before the bottom line of the project is impacted. Figure below provides an overview of the levels of multiple levels of support for risk management by the contractor.




**Contractor's Commitment to Risk Management**

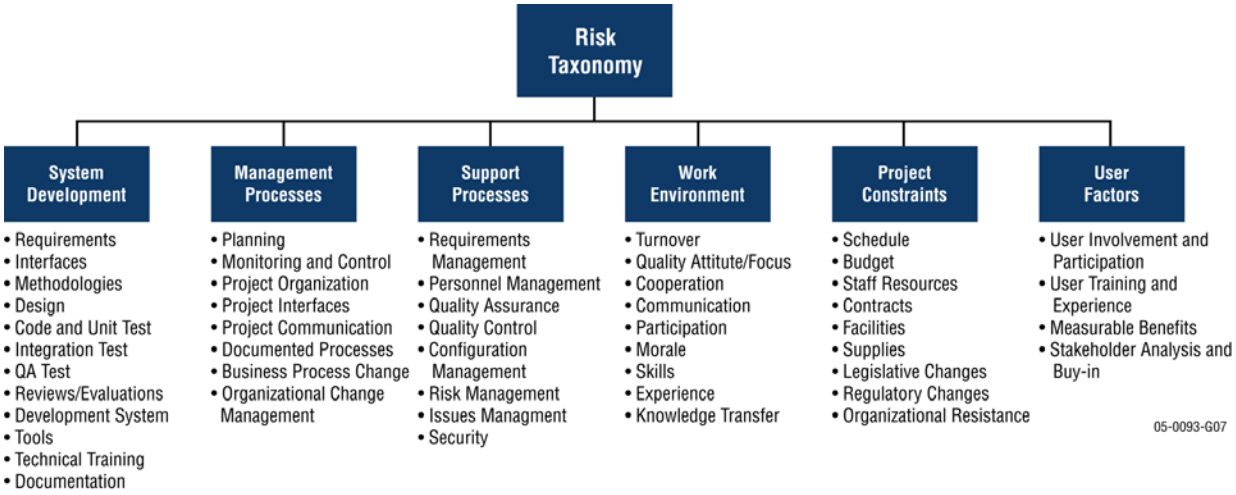
Contractor's approach to risk management for the MMIS project blends PMI risk management processes with the Software Engineering Institute's (SEI) Risk Taxonomy to form a continuous methodology that is applied throughout the project's lifecycle. Risk management planning primarily occurs during the project initiation phase but will continue for the entire lifecycle, based on feedback from monitoring and control of the project objectives and deliverables.

Risk identification *must* be continuous throughout the lifecycle, including the administrative closeout procedures at the end of the project. At any point in the lifecycle, the team may identify events and conditions that might affect the project and then document them for review by the project management team and the risk management team.

Contractor's risk identification method incorporates the SEI's Risk Taxonomy. This taxonomy was evaluated and tailored to add additional risk factors to conform to the needs of the MMIS project. The resulting risk taxonomy will cover all phases of the project.

As identified in the Risk Taxonomy, risks may be broken down into a variety of areas. Throughout the course of the project, the project team must remain attentive to each of these areas. These categories cut across the various areas of the Risk Taxonomy thus creating a simple but thorough mechanism for monitoring project risks. (See Figure below for an overview of the Risk Taxonomy.)

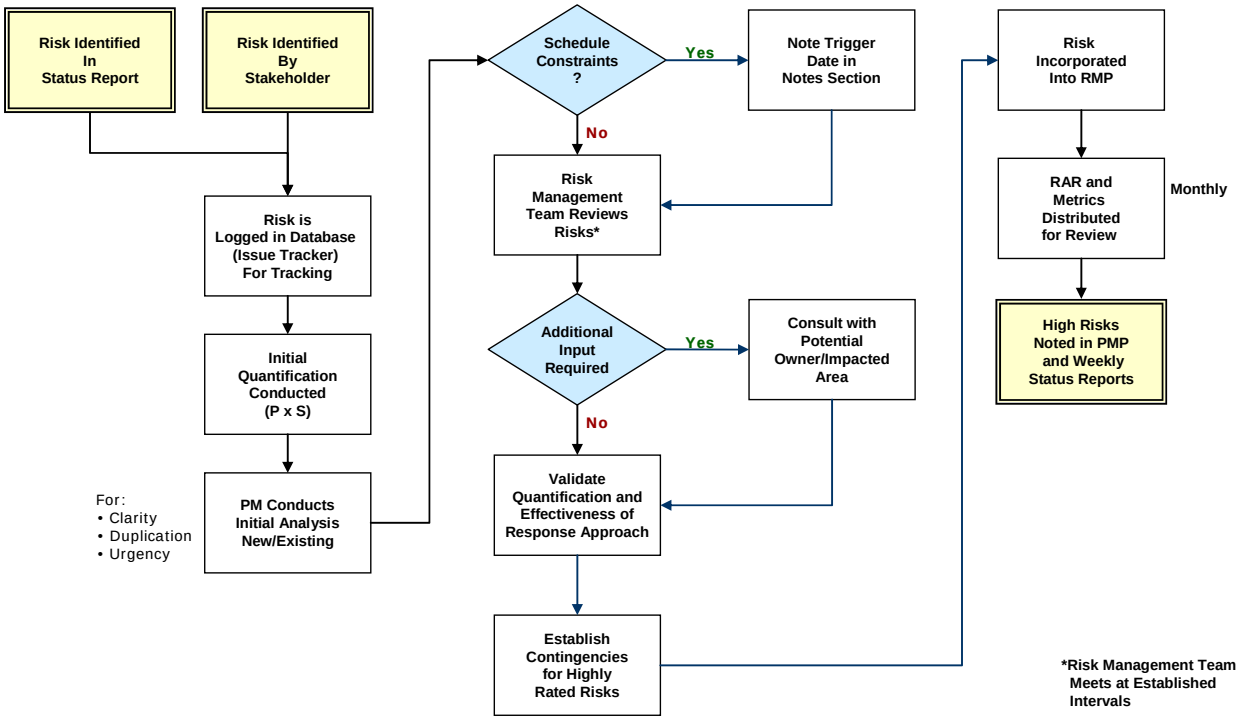
Qualitative and quantitative analyses follow risk identification and precede risk response planning, but the methodologies in each also feed other processes. Analysis is conducted with the risk management team and supported by business and technical subject matter experts. Previously documented conditions are assessed as to their impact on the project and project objectives. Risks are then analyzed as to the probability of occurrence, and the severity of impact is assessed. The assessment aids in prioritizing the risks and also facilitates the establishment of effective thresholds both for assigning high risks and for targeting risks for reporting. The identification of high risks promotes the establishment of a sound risk response.




**Risk Taxonomy**

Risk response again uses the risk management team, along with business and technical experts, to define effective mitigations to the identified risks. The risk management team also establishes and reviews contingencies to risks that have been ranked high as a result of the qualitative and quantitative analyses, resulting in a “high” total risk score.

Ongoing monitoring helps to evaluate the identified risks, and the defined mitigation strategies remain effective. Figure below presents an overview of the risk management process.




**Contractor’s Risk Management Process**

Risk management is an essential component in the Contractor's PMM and overall project success. It emphasizes rapid and ongoing identification of risks, which increases leverage for a project manager by expanding the time available to assess offsetting strategies for effective mitigation. Contractor's approach also stresses quantification of risks to ensure that attention and resources are drawn to those risks presenting the greatest and most likely threats to project success and to facilitate the implementation of rigorous contingency planning. Ongoing communication is a cornerstone of the contractor's risk management philosophy, promoting visibility into the project and increasing the effectiveness identifying risks and the promoting successful mitigation strategies.

To meet these challenges and to effectively deal with them requires a robust combination of the following:

- Objective analysis of project risks and approaches to mitigation
- Proactive collaboration with the DIT Project Manager and MMIS systems Contractor, along with MMIS management and key stakeholders
- Proven project management, business process reengineering, organizational change management, communication, requirements analysis, technical architecture, and strategic planning approaches
- Openness about potential project risk and a willing to do what is need to mitigate those risks
- Involvement, participation, and commitment from MMIS stakeholders and executive management

### 1.403 CHANGE MANAGEMENT

Project scope change management is the process by which a change is proposed, evaluated, approved or rejected, scheduled, and tracked (according to the Institute of Electrical and Electronic Engineers [IEEE]). The contractor's approach to scope change control as implemented in its scope change management process is rigorous, consistent, and continuous, but it is nevertheless based on the realization that in a dynamic business and regulatory environment things change.

Scope change control keeps the focus on delivering the right product without sacrificing the better ideas that arise in the evolution from specs to final, tested code. Uncollected changes to requirements can have a disastrous effect on the project schedule; therefore, it is important that a joint effort be made by the DIT Project Manager, MMIS Implementation Contractor, MMIS management, and the IV&V and PCO team of State and Contractor members to fully understand the importance of maintaining a solid change management process. Table below summarizes the importance of effective scope management.

**Scope Change**

| The Importance of a Solid Scope Change Management Process |
|---|
| Enables project team to effectively manage changes to the project |
| Provides uniform, clearly defined procedures for handling changes when they occur |
| Defines how changes can be initiated and provides a format for addressing, submitting, and documenting the changes |
| Describes the evaluation process and the tracking of those changes as they move from identification to assessment to further analysis to final decision |
| Assesses the impact of the change on existing commitments |
| Ensures changes are approved by the appropriate participants |
| Prevents unauthorized changes from affecting the project |
| Ensures all project team members know how and when to report changes |
| Eliminates surprises to MMIS, the project team, and project stakeholders |
| Eliminates scope creep |

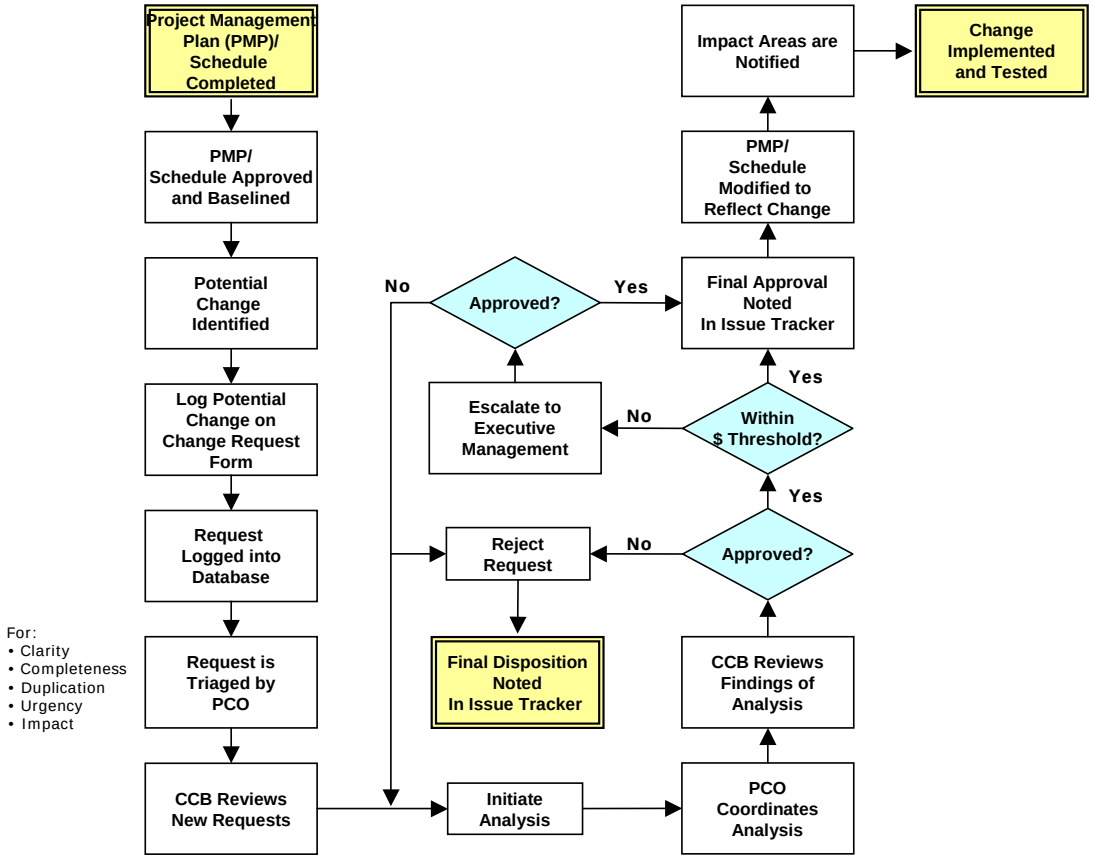
Contractor's scope change management process guides the team to a thorough understanding of why the requested change is important to the business or technical objectives of the State and MMIS. The process moves through a well-defined lifecycle of assessment, review, and approval to fully understand the benefits and the costs associated with the suggested modification to the scope of the project.

The basic steps of the process are as follows:

- Identify and document the change request with the PCO Web Issue Tracker.
- Log and assign the request.
- Analyze and assess change.
- Make a decision.
- Report status.
- Implement the approved change and update relevant documents, plans, and the schedule.
- Close the change and archive the change request to support phase-end reviews, project closeout activities, and "lessons-learned" sessions.

The Contractor's structured approach provides a uniform, clearly defined procedure for handling changes when they occur. This process defines how changes can be initiated, as well as provides a format for addressing, submitting, and documenting the change. Contractor's experience has been that completing a change request form allows the requestor to "think through" the change by documenting the effect of and the impact on the process. The process of completing the form allows informed decisions to be made. As with any methodology, it communicates the expectations and commitment to the project and promotes a thorough and accessible audit trail of all project changes.

The flow depicted in Figure below illustrates contractor's recommended approach to change control, which promotes effective tracking, objective analysis of change requests, and the timely reporting required to support rigorous scope management.




**Scope Change Control Process**

Scope change control is a key component of contractor's overall approach to scope management.

Effective scope management is critical to project success and is initiated with acceptance of the MMIS Implementation Contractor's proposal to Michigan's MMIS Request for Proposals (RFP), which documents the requirements of the project. Key components in the Contractor's methodology are then engaged to support the execution of effective scope management throughout the project lifecycle.

A PMP and the detailed project schedule define the project management processes, project structure, contract deliverables, key phases, activities, tasks, milestones, resources, assumptions, constraints, and dependencies, establishing a sound project management framework and a solid baseline for defining the project scope.

## 1.5 Acceptance

### 1.501 Acceptance-in-General

**Criteria**

A monthly review of contractor performance against the Statement of Work (SOW) by the DIT Project Manager and Contract Compliance Inspector will determine acceptance.

The CCI and DIT Project Manager will issue written approval for delivery dates of specific processes and other output prior to submission or delivery, and these will be added to the MMIS project schedule by Contractor's PCO Manager.

PCO Manager will be held accountable to these deliverables in a similar manner as the Development and Implementation Vendor, State staff, and others are held accountable for their project schedule tasks.

### 1.502 Final Acceptance

Written approval (also referred to as Signoff on the monthly review) by the Contract Compliance Inspector for the services rendered each month will constitute final acceptance of all deliverables.

### 1.503 Delivery of Deliverables

A list of the Deliverables is to be prepared and delivered by the contractor including, for each Deliverable, the scheduled delivery date and a designation of whether the Deliverable is a document ("Written Deliverable") or a Custom Software Deliverable. All Deliverables shall be completed and delivered for State review and written approval and, where applicable, installed in accordance with the State-approved delivery schedule and any other applicable terms and conditions of this Contract. Prior to delivering any Deliverable to the State, the contractor will first perform all required quality assurance activities, and, in the case of Custom Software Deliverables, System Testing to verify that the Deliverable is complete and in conformance with its specifications.

Before delivering a Deliverable to the State, the Contractor shall certify to the State that (1) it has performed such quality assurance activities, (2) it has performed any applicable testing, (3) it has corrected all material deficiencies discovered during such quality assurance activities and testing, (4) the Deliverable is in a suitable state of readiness for the State's review and approval, and (5) the Deliverable/Service has all Critical Security patches/updates applied.

### 1.504 Process for Approval of Written Deliverables

1. The State Review Period for Written Deliverables will be the number of days set forth in the Statement of Work following delivery of the final version of the Written Deliverable (failing which the State Review Period, by default, shall be five (5) Business Days for Written Deliverables of one hundred (100) pages or less and ten (10) Business Days for Written Deliverables of more than one hundred (100) pages). The duration of the State Review Periods will be doubled if the State has not had an opportunity to review an interim draft of the Written Deliverable prior to its submission to the State.

2. The State agrees to notify the Contractor in writing by the end of the State Review Period either stating that the Written Deliverable is approved in the form delivered by the Contractor or describing any deficiencies that must be corrected prior to approval of the Written Deliverable (or at the State's election, subsequent to approval of the Written Deliverable).

3. If the State delivers to the Contractor a notice of deficiencies, the Contractor will correct the described deficiencies and within five (5) Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. The Contractor's correction efforts will be made at no additional charge. Upon receipt of a corrected Written Deliverable from the Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Written Deliverable to confirm that the identified deficiencies have been corrected.

4. In the vent the State does not provide notice of approval or rejection of a deliverable within the time periods defined (or as shall be mutually agreed upon between State and Contractor), as referenced in the Contractor's State-approved project plan, Contractor may submit a change request to address any resulting cost or schedule impact. Final approval for this change request shall be with the Contract Compliance Inspector and with the Contract Administrator.

## 1.6 Compensation and Payment

The State will provide necessary on-site office accommodations with necessary equipment (printer and copier) access, and privileges granted for data access. The State will provide physical workspace for all Contractor staff at a location to be determined by the CCI. Included in this workspace are basic office furniture, telephone for local calls, and a Personal Computer configured to meet State requirements. In some instances, Contractor staff may be required to share a cubicle and telephone, as shall be determined by the State's CCI.

The State will **not** supply parking, cellular telephones, pagers, or any other equipment as part of this contract for the contractor's staff.

Contractor staff will be located in Lansing, Michigan, and therefore travel expenses will not be reimbursed by the State additionally to perform this work. In the event Contractor-staff must travel for purposes of implementing services under this Agreement, prior approval must be obtained from the DIT Contract Compliance Inspector and DMB-Purchasing Operations. Further, the "DMB Travel Guidelines for DMB Employees, Contractors and Board Members," directs that approval for this travel reimbursement, **these rates cannot exceed those established by the Department of Civil Service for employee reimbursement.** http://www.michigan.gov/dmb. Travel charges will be reimbursed at current state-authorized rates as outlined by DMB guidelines and must be accompanied by actual receipts.

### A. Invoicing and Payment Procedures and Terms

1. Invoicing and Payment – In General

   a. Each Statement of Work issued under this Contract shall list (or indicate by reference to the appropriate Contract Exhibit) the prices for all Services/Deliverables, equipment and commodities to be provided, and the associated payment milestones and payment amounts.

   b. Each Contractor invoice will show details as to charges by Service/Deliverable component and location at a level of detail reasonably necessary to satisfy the State's accounting and charge-back requirements. The charges for the Mandatory Key Resources shall be based upon the fixed monthly rates specified in Appendix A to this Agreement, IV&V PCO Pricing Sheet. The charges for Optional Resources shall be billed on a time and materials basis based on the actual number of hours of Services performed, at the hourly rates corresponding to the applicable Staffing Category specified in Appendix A to this Agreement, IV&V PCO Pricing Sheet. Invoices for Services performed by the Mandatory Key Resources and Optional Resources will show, for each such individual, the number of hours of Services performed during the billing period, the billable skill/labor category for such person and the applicable fixed hourly rate for the Optional Resources.

   c. Correct invoices will be due and payable by the State, in accordance with the State's standard payment procedure as specified in 1984 Public Act No. 279, MCL 17.51 et seq., within forty-five (45) days after receipt, provided the State determines that the invoice was properly rendered.

   d. Taxes (See Section 2.305 and Article 3, Section 3.022-3.024 for additional) The State is exempt from Federal Excise Tax, State and Local Sales Taxes, and Use Tax with respect to the sale to and use by it of tangible personal property. Such taxes shall not be included in Contract prices as long as the State maintains such exemptions. Copies of all tax exemption certificates shall be supplied to Contractor, if requested.

e. Contractor's Out-of-Pocket Expenses
Contractor acknowledges that the out-of-pocket expenses that Contractor incurs in performing the services and providing the Deliverables under this AGREEMENT (such as, but not limited to, travel and lodging, document reproduction and shipping, and long distance telephone) are included in Contractor's fixed price for each Statement of Work. Accordingly, Contractor's out-of-pocket expenses are not separately reimbursable by the State unless, on a case-by-case basis for unusual expenses, the State has agreed in advance and in writing to reimburse Contractor for such an expense at the State's current travel reimbursement rates. See http://www.mi.gov/dmb/0,1607,7-150-9141_13132---,00.html for current rates.

f. Antitrust Assignment
Contractor assigns to the State any claim for overcharges resulting from antitrust violations to the extent that those violations concern materials or services supplied by third parties to the Contractor, toward fulfillment of this Contract.

g. Final Payment
The making of final payment by the State to Contractor does not constitute a waiver by either party of any rights or other claims as to the other party's continuing obligations under the Contract, nor will it constitute a waiver of any claims by one party against the other arising from unsettled claims or failure by a party to comply with this Contract, including claims for Services and Deliverables not reasonably known until after acceptance to be defective or substandard. Contractor's acceptance of final payment by the State under this Contract shall constitute a waiver of all claims by Contractor against the State for payment under this Contract, other than those claims previously filed in writing on a timely basis and still unsettled.

h. State Funding Obligation
The State's obligation under this Contract is payable only and solely from funds appropriated for the purpose of this Contract. Contractor acknowledges and agrees that all funds for payments after the end of the current fiscal year are subject to the availability of a legislative appropriation for the purpose of this Contract (See Article II for more information).

i. Electronic Payment Availability
Electronic transfer of funds is available to State Contractors. Contractor is required to register with the State electronically at http://www.cpexpress.state.mi.us. Public Act 533 of 2004 requires all payments be transitioned over to EFT by October, 2005.

**Maximum Total Amount**

**For the life of this Agreement, maximum total to be paid to Contractor shall not exceed $2,197,696.00, as follows:**

**Total Prices for Mandatory Key Personnel Resources**:

All rates stated below are all inclusive and fixed for the duration of the contract. The State reserves the right to adjust the hours indicated with thirty (30) days written notice to the contractor.

| Mandatory Key Resources | # Months This Position | Monthly Billing Rate | Extended Price based upon months for This Position |
|---|---|---|---|
| PMO Manager | 15 | $30,600.00 | $459,000.00 |
| IV/V Project Control (PCO) Manager | 14 | $28,050.00 | $392,700.00 |
| Project Change (Release) Manager | 12.25 | $20,400.00 | $249,900.00 |
| Project Schedulers* | 11.5 | $17,850.00 | $205,275.00 |
| Infrastructure Team Manager | 0 | $24,650.00 | $0 |
| Systems and Network Support | 0 | $8,797.50 | $0 |
| Data Management (Loading, Conversion, Utilities) | 13.5 | $17,850.00 | $240,975.00 |
| Sr. Quality Assurance Manager | 13 | $22,100.00 | $287,300.00 |
| Quality Assurance/Test Manager | 10.5 | $20,400.00 | $214,200.00 |
| Quality Assurance and Testing | 7.5 | $15,300.00 | $114,750.00 |
| **Total** | | | **$2,164,100.00** |
| **Infrastructure Team Manager used 6.5 months with an overage of .5 allocated on original contract (071B6200243)** | **-.5** | $24,650.00 | **-$ 12,325.00** |
| **Total Price to be paid during life of Contract for Mandatory Key Resources:** | | | **$2,151,775.00** |

**Optional Resources: Hourly Rates for each Staffing category to be used as Fixed Rates for Responses to Statements of Work (Drawn from estimated 10,000 hours per year)**

| **Optional Resources** Staffing Category | Fixed Hourly Rate (not to exceed) |
|---|---|
| Siebel Architect | $145.00 |
| FileNet/Document Management Architect | $145.00 |
| Oracle Financials Architect | $180.00 |
| Work Flow Coordinator | $130.00 |
| Configuration Management | $100.00 |
| Application Architecture | $145.00 |
| Environment Planning and Preparation | $130.00 |
| System DBA | $145.00 |
| Data Modeling | $145.00 |
| Batch Support/Scheduling | $100.00 |
| Remedy Processing, Documentation | $100.00 |
| Web Tools Support | $130.00 |
| Average Hourly Rate (of all categories above) | $132.92 |
| **Total Maximum to be paid for Optional Hours during life of Contract:** | **$45,921.00** |

## 1.7 Additional Terms and Conditions Specific to this SOW

The State requires all contractor staff to perform all work for the MMIS project on site at the MMIS project office located at the (location to be determined) in Lansing, Michigan.

Occasional off-site work may be permitted if the State agrees in writing prior to the performance of such off-site work.

## Article 2 – General Terms and Conditions

### 2.0 General Terms & Conditions

#### 2.001 GENERAL PURPOSE

The Contract is for the MMIS Project Control Office (PCO) for the State of Michigan. Orders will be issued directly to the Contractor by various State Agencies on the Purchase Order Contract Release Form. Bids are due and will be publicly identified at the time noted on the Invitation To Bid (ITB) Form.

#### 2.002 ISSUING OFFICE AND CONTRACT ADMINISTRATOR

The Contract is issued by Purchasing Operations, State of Michigan, Department of Management and Budget, hereinafter known as Purchasing Operations, for the Department of Information Technology, hereinafter known as DIT. Where actions are a combination of those of Purchasing Operations and the State agencies, the authority will be known as the State.

Purchasing Operations is the sole point of contact in the State with regard to all procurement and contractual matters relating to the commodities and/or services described herein. Purchasing Operations is the only office authorized to negotiate, change, modify, amend, alter, clarify, etc., the specifications, terms, and conditions of the Contract. Purchasing Operations will remain the SOLE POINT OF CONTACT throughout the procurement process.

**Contractor proceeds at its own risk if it takes negotiation, changes, modification, alterations, amendments, clarification, etc., of the specifications, terms, or conditions of the contract from any individual or office other than Purchasing Operations and the listed contract administrator**

All communications covering this procurement must be addressed to contract administrator indicated below:

Joann Klasko, Buyer
Department of Management and Budget
Business Services Administration - Purchasing Operations Division
2nd Floor, Mason Building
P.O. Box 30026
Lansing, Michigan 48909
Tel: (517) 241-7233
E-mail: KlaskoJ@michigan.gov

#### 2.003 NOTICE

Any notice given to a party under this Contract must be written and shall be deemed effective, if addressed to such party as addressed below upon (i) delivery, if hand delivered; (ii) receipt of a confirmed transmission by facsimile if a copy of the notice is sent by another means specified in this section; (iii) the third (3rd) Business Day after being sent by U.S. mail, postage pre-paid, return receipt requested; or (iv) the next Business Day after being sent by a nationally recognized overnight express courier with a reliable tracking system.

#### 2.004 CONTRACT TERM

The term of this Contract will be for approximately three years and will commence with the issuance of the Notice of Contract in April 2006 and the ending shall be September 30, 2009 (State Fiscal year 2009).

**Option.** The State reserves the right to exercise one (1) one-year option to extend the Agreement, at the sole option of the State. Contractor performance, quality of products, price, cost savings, and the Contractor's ability to deliver on time are some of the criteria that will be used as a basis for any decision by Purchasing Operations to exercise an option year, as well as program need.

**Extension.** At the sole option of the State, the contract may also be extended. Contractor performance, quality of products, price, cost savings, and the Contractor's ability to deliver on time are some of the criteria that will be used as a basis for any decision by Purchasing Operations to exercise an option year.

Written notice will be provided to the Contractor within 30 days, provided that the State gives the Contractor a preliminary written notice of its intent to extend at least 60 days before the contract expires. The preliminary notice does not commit the Government to an extension. If the Government exercises this option, the extended contract shall be considered to include this option clause.

**2.005 GOVERNING LAW**

The Contract shall in all respects be governed by, and construed in accordance with, the laws of the State of Michigan. By signing this agreement, Contractor consents to personal jurisdiction in the state of Michigan. Any dispute arising herein shall be resolved in the State of Michigan.

**2.006 APPLICABLE STATUTES**

The following statutes, rules, and laws are applicable to the performance of this contract; some statutes are reflected in the clauses of this contract. This list is NOT exhaustive.

MI Uniform Commercial Code (MIUCC) MCL 440. (All sections unless otherwise altered by agreement)
MI OSHA MCL §§ 408.1001 – 408.1094
Freedom of Information Act (FIOA) MCL §§ 15.231, et seq.
Natural Resources and Environmental Protection Act MCL §§ 324.101, et seq.
MI Consumer Protection Act MCL §§ 445.901 – 445.922
Laws relating to wages, payments of wages, and fringe benefits on state projects MCL §§ 408.551 – 408.558, 408.471 – 408.490, 1965 PA 390.
Department of Civil Service Rules and regulations
Elliot Larsen Civil Rights Act MCL §§ 37.2201, et seq.
Persons with disabilities Civil Rights Act MCL §§ 37.1101, et seq.
MCL §§ 423.321, et seq.
MCL § 18.1264 (law regarding debarment)
Davis-Bacon Act (DBA) 40 USCU §§ 276(a), et seq.
Contract Work Hours and Safety Standards Act (CWHSAA) 40 USCS § 327, et seq.
Business Opportunity Act for Persons with Disabilities MCL §§ 450.791 – 450.795
Rules and regulations of the Environmental Protection Agency
Internal Revenue Code
Rules and regulations of the Equal Employment Opportunity Commission (EEOC)
The Civil Rights Act of 1964, USCS Chapter 42
Title VII, 42 USCS §§ 2000e et seq.
The Americans with Disabilities Act (ADA), 42 USCS §§ 12101 et seq.
The Age Discrimination in Employment Act of 1967 (ADEA), 29 USCS §§ 621, 623 et seq.
The Old Workers Benefit and Protection Act of 1990 (OWBPA), 29 USCS §§ 626, et seq.
The Family Medical Leave Act of 1993 (FMLA), 29 USC §§ 651 et seq.
The Fair Labor Standards Act (FLSA), 29 USC §§ 201 et seq.
Pollution Prevention Act of 1990 (PPA) 42 U.S.C. §13106
Sherman Act, 15 U.S.C.S. § 1 et seq.
Robinson-Patman Act, 15 U.S.C.S. § 13 et. seq.
Clayton Act, 15 U.S.C.S. § 14 et seq.

### 2.007 RELATIONSHIP OF THE PARTIES

The relationship between the State and the Contractor is that of client and independent Contractor. No agent, employee, or servant of the Contractor or any of its subcontractors shall be or shall be deemed to be an employee, agent, or servant of the State for any reason. The Contractor will be solely and entirely responsible for its acts and the acts of its agents, employees, servants and subcontractors during the performance of this Contract.

### 2.008 HEADINGS

Captions and headings used in the Contract are for information and organization purposes. Captions and headings, including inaccurate references, do not, in any way, define or limit the requirements or terms and conditions of this Contract.

### 2.009 MERGER

This document constitutes the complete, final, and exclusive agreement between the parties. All other prior writings and negotiations are ineffective.

### 2.010 SEVERABILITY

Each provision of the Contract shall be deemed to be severable from all other provisions of the Contract and, if one or more of the provisions of the Contract shall be declared invalid, the remaining provisions of the Contract shall remain in full force and effect.

### 2.011 SURVIVORSHIP

Any provisions of the Contract that impose continuing obligations on the parties including, but not limited to the Contractor's indemnity and other obligations shall survive the expiration or cancellation of the Contract for any reason.

### 2.012 NO WAIVER OF DEFAULT

The failure of a party to insist upon strict adherence to any term of the Contract shall not be considered a waiver or deprive the party of the right thereafter to insist upon strict adherence to that term or any other term of the Contract.

### 2.013 PURCHASE ORDERS

Orders for delivery of commodities and/or services may be issued directly by the State Departments through the issuance of a Purchase Order Form referencing this Contract (Blanket Purchase Order) agreement and the terms and conditions contained herein. Contractor is asked to reference the Purchase Order Number on all invoices for payment.

## 2.1 Contractor/Contractor Obligations

### 2.101 ACCOUNTING RECORDS

The Contractor and all subcontractors shall maintain all pertinent financial and accounting records and evidence pertaining to the Contract in accordance with generally accepted principles of accounting and other procedures specified by the State of Michigan. Financial and accounting records shall be made available, upon request, to the State of Michigan, its designees, or the Michigan Auditor General at any time during the Contract period and any extension thereof, and for three years from expiration date and final payment on the Contract or extension thereof.

### 2.102 NOTIFICATION OF OWNERSHIP

The Contractor shall make the following notifications in writing:

When the Contractor becomes aware that a change in its ownership or officers has occurred, or is certain to occur, that could result in changes in the valuation of its capitalized assets in the accounting records, the Contractor shall notify Purchasing Operations within 30 days.

The Contractor shall also notify the Purchasing Operations within 30 days whenever changes to asset valuations or any other cost changes have occurred or are certain to occur as a result of a change in ownership or officers.

The Contractor shall:

1. Maintain current, accurate, and complete inventory records of assets and their costs;

2. Provide Purchasing Operations or designated representative ready access to the records upon request;

3. Ensure that all individual and grouped assets, their capitalized values, accumulated depreciation or amortization, and remaining useful lives are identified accurately before and after each of the Contractor's ownership or officer changes; and

4. Retain and continue to maintain depreciation and amortization schedules based on the asset records maintained before each Contractor ownership or officer change.

**2.103 SOFTWARE COMPLIANCE**

The Contractor warrants that all software for which the Contractor either sells or licenses to the State of Michigan and used by the State prior to, during or after the calendar year 2000, includes or shall include, at no added cost to the State, design and performance so the State shall not experience software abnormality and/or the generation of incorrect results from the software, due to date oriented processing, in the operation of the business of the State of Michigan.

The software design, to insure year 2000 compatibility, shall include, but is not limited to: data structures (databases, data files, etc.) that provide 4-digit date century; stored data that contain date century recognition, including, but not limited to, data stored in databases and hardware device internal system dates; calculations and program logic (e.g., sort algorithms, calendar generation, event recognition, and all processing actions that use or produce date values) that accommodates same century and multi-century formulas and date values; interfaces that supply data to and receive data from other systems or organizations that prevent non-compliant dates and data from entering any State system; user interfaces (i.e., screens, reports, etc.) that accurately show 4 digit years; and assurance that the year 2000 shall be correctly treated as a leap year within all calculation and calendar logic.

**2.104 IT STANDARDS**

1. EXISTING TECHNOLOGY STANDARDS. The Contractor will adhere to all existing standards as described within the comprehensive listing of the State's existing technology standards at http://michigan.gov/dit.

2. PM METHODOLOGY STANDARDS. The State has adopted a standard documented Project Management Methodology (PMM) for use on all Information Technology (IT) based projects. This policy is referenced in the document titled "Project Management Methodology" – DMB Administrative Guide Procedure 1380.02 issued June 2000. Contractors may obtain a copy of this procedure, as well as the State of Michigan Project Management Methodology, from the Department of Information Technology's website at http://www.michigan.gov/projectmanagement.

   The Contractor shall use the State's PPM to manage State of Michigan Information Technology (IT) based projects. The Requesting agency will provide the applicable documentation and internal agency processes for the methodology. If the Contractor requires training on the methodology, those costs shall be the responsibility of the Contractor, unless otherwise stated.

3. ADHERENCE TO PORTAL TECHNOLOGY TOOLS. The State of Michigan, Department of Information Technology, has adopted the following tools as its Portal Technology development efforts:

- Vignette Content Management and personalization Tool
- Inktomi Search Engine
- E-Pay Payment Processing Module
- Websphere Commerce Suite for e-Store applications

**Contractors must use the Portal Technology Tools to implement web content management and deployment efforts for agencies. Tools used for web-based application development must work in conjunction with Vignette and Inktomi. The interaction with Vignette and Inktomi must be coordinated with the Department of Information Technology, Enterprise Application Services Office, e-Michigan Web Development team.**

Under special circumstances Contractors that are compelled to use alternate tools must submit an exception request to the Department of Information Technology, Enterprise Application Services Office, e-Michigan Web Development team, for evaluation and approval of each alternate tool prior to proposal evaluation by the State. (If the solution is hosted on the michigan.gov hosted environment, then the application may need to be compliant with WebSphere, or need to be evaluated for compatibility with WebSphere.)

## 2.105 PERFORMANCE AND RELIABILTIY EVALUATION (PARE)

**RESERVED** – section not applicable at this time.

## 2.106 PREVAILING WAGE

The rates of wages and fringe benefits to be paid each class of individuals employed by the Contractor, its subcontractors, their subcontractors, and all persons involved with the performance of this contract in privity of contract with the Contractor shall not be less than the wage rates and fringe benefits established by the Michigan Department of Consumer and Industry Service, Bureau of Safety and Regulation, Wage/Hour Division schedule of occupational classification and wage rates and fringe benefits for the local where the work is to be performed. The term Contractor shall include all general Contractors, prime Contractors, project managers, trade Contractors, and all of their Contractors or subcontractors and persons in privity of contract with them.

The Contractor, its subcontractors, their subcontractors, and all persons involved with the performance of this contract in privity of contract with the Contractor shall keep posted on the work site, in a conspicuous place, a copy of all wage rates and fringe benefits as prescribed in the contract. You must also post, in a conspicuous place, the address and telephone number of the Michigan Department of Consumer and Industry Services, the office responsible for enforcement of the wage rates and fringe benefits. You shall keep an accurate record showing the name and occupation of the actual wage and benefits paid to each individual employed in connection with this contract. This record shall be available to the State upon request for reasonable inspection.

If any trade is omitted from the list of wage rates and fringe benefits to be paid to each class of individuals by the Contractor, it is understood that the trades omitted shall also be paid not less than the wage rate and fringe benefits prevailing in the local where the work is to be performed.

## 2.107 PAYROLL AND BASIC RECORDS

Payrolls and basic records relating to the performance of this contract shall be maintained by the Contractor during the course of the work and preserved for a period of 3 years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-

Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

The Contractor shall submit a copy of all payrolls to the Contract Administrator upon request. The payrolls submitted shall set out accurately and completely all of the information required to be maintained as indicated above.

The Prime Contractor is responsible for the submission of copies of payrolls by all subcontractors upon request from the Contract Administrator

The Contractor or subcontractor shall permit the Contract Administrator or representatives of the Contract Administrator or the State of Michigan to interview employees during working hours on the job.

If the Contractor or subcontractor fails to submit required records or to make them available, the Contract Administrator may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment.

### 2.108 COMPETITION IN SUB-CONTRACTING

The Contractor shall select subcontractors (including suppliers) on a competitive basis to the maximum practical extent consistent with the objectives and requirements of the contract.

### 2.109 CALL CENTER DISCLOSURE

Contractor and/or all subcontractors involved in the performance of this contract providing call or contact center services to the State of Michigan must disclose the location of its call or contact center services to inbound callers. Failure to disclose this information shall be a material breach of this agreement.

## 2.2 Contract Performance

### 2.201 TIME IS OF THE ESSENCE

Contractor/Contractor is on notice that time is of the essence in the performance of this contract. Late performance will be considered a material breach of this contract, giving the State a right to invoke all remedies available to it under this contract.

### 2.202 CONTRACT PAYMENT SCHEDULE

All invoices should reflect actual work done. Specific details of invoices and payments will be agreed upon between the Contract Administrator and the Contractor after the proposed Contract Agreement has been signed and accepted by both the Contractor and the Director of Purchasing Operations, Department of Management & Budget. This activity will occur only upon the specific written direction from Purchasing Operations.

### 2.203 POSSIBLE PROGRESS PAYMENTS

The Government may make progress payments to the Contractor when requested as work progresses, but not more frequently than monthly, in amounts approved by the Contract Administrator, after negotiation. Contractor must show verification of measurable progress at the time of requesting progress payments.

### 2.204 POSSIBLE PERFORMANCE-BASED PAYMENTS (Actual performance rendered)

**RESERVED** – section not applicable at this time.

### 2.205 ELECTRONIC PAYMENT AVAILABILITY

Electronic transfer of funds is available to State Contractors. Contractors are encouraged to register with the State of Michigan Office of Financial Management so the State can make payments related to this Contract electronically at www.cpexpress.state.mi.us.

### 2.206 PERFORMANCE OF WORK BY CONTRACTOR

The Contractor shall perform on the site, and with its own organization, according to the statement of work of this contract, work equivalent to at least one hundred (100%) percent of the total amount of work to be performed under the contract. This percentage may be reduced by a supplemental agreement to this contract if, during performing the work, the Contractor requests a reduction and the Contract Administrator determines that the reduction would be to the advantage of the Government.

## 2.3 Contract Rights and Obligations

### 2.301 INCURRING COSTS

The State of Michigan is not liable for any cost incurred by the Contractor prior to signing of the Contract. The State fiscal year is October 1st through September 30th. The Contractor(s) should realize that payments in any given fiscal year are contingent upon enactment of legislative appropriations. Total liability of the State is limited to terms and conditions of the Contract.

### 2.302 CONTRACTOR RESPONSIBILITIES

The Contractor will be required to assume responsibility for all contractual activities, whether or not that Contractor performs them. Further, the State will consider the Contractor to be the sole point of contact with regard to contractual matters, including payment of any and all charges resulting from the anticipated Contract. If any part of the work is to be subcontracted, the Contract must include a list of subcontractors, including firm name and address, contact person and a complete description of work to be subcontracted. The State reserves the right to approve subcontractors and to require the Contractor to replace subcontractors found to be unacceptable. The Contractor is totally responsible for adherence by the subcontractor to all provisions of the Contract. Any change in subcontractors must be approved by the State, in writing, prior to such change.

### 2.303 ASSIGNMENT AND DELEGATION

The Contractor shall not have the right to assign this Contract, to assign its rights under this contract, or delegate any of its duties or obligations under the Contract to any other party (whether by operation of law or otherwise), without the prior written consent of the State. Any purported assignment in violation of this Section shall be null and void. Further, the Contractor may not assign the right to receive money due under the Contract without the prior written consent of the Director of Purchasing Operations.

The Contractor shall not delegate any duties or obligations under the Contract to a subcontractor other than a subcontractor named and approved in the bid unless the Director of Purchasing Operations has given written consent to the delegation.

**Bidder must obtain the approval of the Director of Purchasing Operations before using a place of performance that is different from the address that bidder provided in the bid.**

### 2.304 TAXES

Sales Tax: For purchases made directly by the State of Michigan, the State is exempt from State and Local Sales Tax. Prices shall not include such taxes. Exemption Certificates for State Sales Tax will be furnished upon request.

Federal Excise Tax: The State of Michigan may be exempt for Federal Excise Tax, or such taxes may be reimbursable, if articles purchased under this Contract are used for the State's exclusive use. Certificates exclusive use for the purposes of substantiating a tax-free, or tax-reimbursable sale will be sent to the Contractor upon request. If a sale is tax exempt or tax reimbursable under the Internal Revenue Code, prices shall not include the Federal Excise Tax.

The State's Tax Exempt Certification is available for Contractor viewing upon request to the Contract Administrator.

**2.305 INDEMNIFICATION**

General Indemnification

To the fullest extent permitted by law, the Contractor shall indemnify, defend and hold harmless the State, its departments, divisions, agencies, sections, commissions, officers, employees and agents, from and against all losses, liabilities, penalties, fines, damages and claims (including taxes), and all related costs and expenses (including reasonable attorneys' fees and disbursements and costs of investigation, litigation, settlement, judgments, interest and penalties), arising from or in connection with any of the following:

1. Any claim, demand, action, citation or legal proceeding against the State, its employees and agents arising out of or resulting from (1) the product provided or (2) performance of the work, duties, responsibilities, actions or omissions of the Contractor or any of its subcontractors under this Contract.

2. Any claim, demand, action, citation or legal proceeding against the State, its employees and agents arising out of or resulting from a breach by the Contractor of any representation or warranty made by the Contractor in the Contract;

3. Any claim, demand, action, citation or legal proceeding against the State, its employees and agents arising out of or related to occurrences that the Contractor is required to insure against as provided for in this Contract;

4. Any claim, demand, action, citation or legal proceeding against the State, its employees and agents arising out of or resulting from the death or bodily injury of any person, or the damage, loss or destruction of any real or tangible personal property, in connection with the performance of services by the Contractor, by any of its subcontractors, by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable; provided, however, that this indemnification obligation shall not apply to the extent, if any, that such death, bodily injury or property damage is caused solely by the negligence or reckless or intentional wrongful conduct of the State;

5. Any claim, demand, action, citation or legal proceeding against the State, its employees and agents which results from an act or omission of the Contractor or any of its subcontractors in its or their capacity as an employer of a person.

Patent/Copyright Infringement Indemnification

To the fullest extent permitted by law, the Contractor shall indemnify, defend and hold harmless the State, its employees and agents from and against all losses, liabilities, damages (including taxes), and all related costs and expenses (including reasonable attorneys' fees and disbursements and costs of investigation, litigation, settlement, judgments, interest and penalties) incurred in connection with any action or proceeding threatened or brought against the State to the extent that such action or proceeding is based on a claim that any piece of equipment, software, commodity or service supplied by the Contractor or its subcontractors, or the operation of such equipment, software, commodity or

service, or the use or reproduction of any documentation provided with such equipment, software, commodity or service infringes any United States or foreign patent, copyright, trade secret or other proprietary right of any person or entity, which right is enforceable under the laws of the United States. In addition, should the equipment, software, commodity, or service, or the operation thereof, become or in the Contractor's opinion be likely to become the subject of a claim of infringement, the Contractor shall at the Contractor's sole expense (i) procure for the State the right to continue using the equipment, software, commodity or service or, if such option is not reasonably available to the Contractor, (ii) replace or modify the same with equipment, software, commodity or service of equivalent function and performance so that it becomes non-infringing, or, if such option is not reasonably available to Contractor, (iii) accept its return by the State with appropriate credits to the State against the Contractor's charges and reimburse the State for any losses or costs incurred as a consequence of the State ceasing its use and returning it.

Code Indemnification

To the extent permitted by law, the Contractor shall indemnify, defend and hold harmless the State from any claim, loss, or expense arising from Contractor's breach of the No Surreptitious Code Warranty.

Indemnification Obligation Not Limited

In any and all claims against the State of Michigan, or any of its agents or employees, by any employee of the Contractor or any of its subcontractors, the indemnification obligation under the Contract shall not be limited in any way by the amount or type of damages, compensation or benefits payable by or for the Contractor or any of its subcontractors under worker's disability compensation acts, disability benefits acts, or other employee benefits acts. This indemnification clause is intended to be comprehensive. Any overlap in sub clauses, or the fact that greater specificity is provided as to some categories of risk, is not intended to limit the scope of indemnification under any other sub clause.

Continuation of Indemnification Obligation

The duty to indemnify will continue in full force and affect not withstanding the expiration or early termination of the Contract with respect to any claims based on facts or conditions, which occurred prior to termination.

Indemnification Procedures

The procedures set forth below shall apply to all indemnity obligations under this Contract.

(a) After receipt by the State of notice of the action or proceeding involving a claim in respect of which it will seek indemnification, the State shall promptly notify Contractor of such claim in writing and take or assist Contractor in taking, as the case may be, any reasonable action to avoid the imposition of a default judgment against Contractor. No failure to so notify Contractor shall relieve Contractor of its indemnification obligations except to the extent that Contractor can demonstrate damages attributable to such failure. Within ten (10) days following receipt of written notice from the State relating to any claim, Contractor shall notify the State in writing whether Contractor agrees to assume control of the defense and settlement of that claim (a "Notice of Election"). After notifying Contractor of a claim and prior to the State receiving Contractor's Notice of Election, the State shall be entitled to defend against the claim, at Contractor's expense, and Contractor will be responsible for any reasonable costs incurred by the State in defending against the claim during such period.

(b) If Contractor delivers a Notice of Election relating to any claim: (i) the State shall be entitled to participate in the defense of such claim and to employ counsel at its own expense to assist in the handling of such claim and to monitor and advise the State about the status and progress of the Defense; (ii) Contractor shall, at the request of the State, demonstrate to the reasonable satisfaction of the State, Contractor's financial ability to carry out its defense and indemnity obligations under this Contract; (iii) Contractor shall periodically advise the State about the status and progress of the defense and shall obtain the prior written approval of the State before entering into any settlement of such claim or ceasing to defend against such claim and (iv) to the extent that any principles of Michigan governmental or public law may be involved or challenged, the State shall have the right, at its own expense, to control the defense of that portion of such claim involving the principles of Michigan governmental or public law. Notwithstanding the foregoing, the State may retain control of the defense and settlement of a claim by written notice to Contractor given within ten (10) days after the State's receipt of Contractor' s information requested by the State pursuant to clause (ii) of this paragraph if the State determines that Contractor has failed to demonstrate to the reasonable satisfaction of the State Contractor's financial ability to carry out its defense and indemnity obligations under this Section. Any litigation activity on behalf of the State of Michigan, or any of its subdivisions pursuant to this Section, must be coordinated with the Department of Attorney General. In the event the insurer's attorney represents the State pursuant to this Section, the insurer's attorney may be required to be designated as a Special Assistant Attorney General by the Attorney General of the State of Michigan.

(c) If Contractor does not deliver a Notice of Election relating to any claim of which it is notified by the State as provided above, the State shall have the right to defend the claim in such manner as it may deem appropriate, at the cost and expense of Contractor. If it is determined that the claim was one against which Contractor was required to indemnify the State, upon request of the State, Contractor shall promptly reimburse the State for all such reasonable costs and expenses.

**2.306 LIMITATION OF LIABILITY**

The Contractor's liability for damages to the State shall be limited to two times the value of the Contract or $200,000 which ever is higher. The foregoing limitation of liability shall not apply to claims for infringement of United States patent, copyright, trademarks or trade secrets; to claims for personal injury or damage to property caused by the gross negligence or willful misconduct of the Contractor; to claims covered by other specific provisions of this Contract calling for liquidated damages; to Contractor's indemnification obligations (2.305); or to court costs or attorney's fees awarded by a court in addition to damages after litigation based on this Contract.

The State's liability for damages to the Contractor shall be limited to the value of the Contract.

**2.307 CONTRACT DISTRIBUTION**

Purchasing Operations shall retain the sole right of Contract distribution to all State agencies and local units of government unless other arrangements are authorized by Purchasing Operations.

**2.308 FORM, FUNCTION, AND UTILITY**

If the Contract is for use of more than one State agency and if the good or service provided under this Contract do not the meet the form, function, and utility required by a State agency, that agency may, subject to State purchasing policies, procure the good or service from another source.

**2.309 ASSIGNMENT OF ANTITRUST CAUSE OF ACTION**

For and in consideration of the opportunity to submit a quotation and other good and valuable consideration, the bidder hereby assigns, sells and transfers to the State of Michigan all rights, title and interest in and to all causes of action it may have under the antitrust laws of the United States or this State for price fixing, which causes of action have accrued prior to the date of payment and which relate solely to the particular goods, commodities, or services purchased or procured by this State pursuant to this transaction.

**2.310 RESERVED**

**RESERVED** – section not applicable at this time.

**2.311 TRANSITION ASSISTANCE**

If this Contract is not renewed at the end of this term, or is canceled prior to its expiration, for any reason, the Contractor must provide for up to 90 days after the expiration or cancellation of this Contract, all reasonable transition assistance requested by the State, to allow for the expired or canceled portion of the Services to continue without interruption or adverse effect, and to facilitate the orderly transfer of such services to the State or its designees. Such transition assistance will be deemed by the parties to be governed by the terms and conditions of this Contract, (notwithstanding this expiration or cancellation) except for those Contract terms or conditions that do not reasonably apply to such transition assistance. The State shall pay the Contractor for any resources utilized in performing such transition assistance at the most current rates provided by the Contract for Contract performance.

**2.312 WORK PRODUCT**

Work Products shall be considered works made by the Contractor for hire by the State and shall belong exclusively to the State and its designees, unless specifically provided otherwise by mutual agreement of the Contractor and the State. If by operation of law any of the Work Product, including all related intellectual property rights, is not owned in its entirety by the State automatically upon creation thereof, the Contractor agrees to assign, and hereby assigns to the State and its designees the ownership of such Work Product, including all related intellectual property rights. The Contractor agrees to provide, at no additional charge, any assistance and to execute any action reasonably required for the State to perfect its intellectual property rights with respect to the aforementioned Work Product.

Notwithstanding any provision of this Contract to the contrary, any preexisting work or materials including, but not limited to, any routines, libraries, tools, methodologies, processes or technologies (collectively, the “Development Tools”) created, adapted or used by the Contractor in its business generally, including any and all associated intellectual property rights, shall be and remain the sole property of the Contractor, and the State shall have no interest in or claim to such preexisting work, materials or Development Tools, except as necessary to exercise its rights in the Work Product. Such rights belonging to the State shall include, but not be limited to, the right to use, execute, reproduce, display, perform and distribute copies of and prepare derivative works based upon the Work Product, and the right to authorize others to do any of the foregoing, irrespective of the existence therein of preexisting work, materials and Development Tools, except as specifically limited herein.

The Contractor and its subcontractors shall be free to use and employ their general skills, knowledge and expertise, and to use, disclose, and employ any generalized ideas, concepts, knowledge, methods, techniques or skills gained or learned during the course of performing the services under this Contract, so long as the Contractor or its subcontractors acquire and apply such information without disclosure of any confidential or proprietary information of the State, and without any unauthorized use or disclosure of any Work Product resulting from this Contract.

### 2.313 PROPRIETARY RIGHTS

**Ownership of Work Product by the State.**

All Deliverables shall be owned by the State and shall be considered works made for hire by the Contractor for the State. The State shall own all United States and international copyrights, trademarks, patents or other proprietary rights in the Deliverables.

**Vesting of Rights.** With the sole exception of any preexisting licensed works identified in Appendix [X], the Contractor shall assign, and upon creation of each Deliverable automatically assigns, to the State, ownership of all United States and international copyrights, trademarks, patents, or other proprietary rights in each and every Deliverable, whether or not registered by the Contractor, insofar as any such Deliverable, by operation of law, may not be considered work made for hire by the Contractor for the State. From time to time upon State's request, the Contractor and/or its personnel shall confirm such assignment by execution and delivery of the assignments, confirmations of assignment, or other written instruments as the State may request. The State shall have the right to obtain and hold in its own name all copyright, trademark, and patent registrations and other evidence of rights that may be available for Deliverables.

### 2.314 WEBSITE INCORPORATION

State expressly states that it will not be bound by any content on the Contractor's website, even if the Contractor's documentation specifically referenced that content and attempts to incorporate it into any other communication, unless the State has actual knowledge of such content and has expressly agreed to be bound by it in a writing that has been manually signed by an authorized representation of the State.

## 2.4 Contract Review and Evaluation

### 2.401 CONTRACT COMPLIANCE INSPECTOR

Upon receipt at Purchasing Operations of the properly executed Contract Agreement(s), the person named below will be allowed to oversee the Contract performance on a day-to-day basis during the term of the Contract. However, overseeing the Contract implies **no authority to negotiate, change, modify, clarify, amend, or otherwise alter the terms, conditions, and specifications of such Contract(s). That authority is retained by Purchasing Operations**. The Contract Compliance Inspector for this project is:

Sara Williams
Michigan Department of Information Technology
300 East Michigan Avenue
Lansing, Michigan 48913
Tel: (517) 335-1277
E-mail: williamss11@michigan.gov

### 2.402 PERFORMANCE REVIEWS

Purchasing Operations in conjunction with the Department of Information Technology may review with the Contractor their performance under the Contract. Performance reviews shall be conducted quarterly, semi-annually or annually depending on Contractor's past performance with the State. Performance reviews shall include, but not limited to, quality of products/services being delivered and provided, timeliness of delivery, percentage of completion of orders, the amount of back orders, status of such orders, accuracy of billings, customer service, completion and submission of required paperwork, the number of substitutions and the reasons for substitutions, and other requirements of the Contract.

Upon a finding of poor performance, which has been documented by Purchasing Operations, the Contractor shall be given an opportunity to respond and take corrective action. If corrective action is not taken in a reasonable amount of time as determined by Purchasing Operations, the Contract may be canceled for default. Delivery by the Contractor of unsafe and/or adulterated or off-

condition products to any State agency is considered a material breach of Contract subject to the cancellation provisions contained herein.

**2.403 AUDIT OF CONTRACT COMPLIANCE/ RECORDS AND INSPECTIONS**

(a) Inspection of Work Performed. The State's authorized representatives, including Federal agencies, shall at all reasonable times and with ten (10) days prior written request, have the right to enter Contractor's premises, or any other places, where the Services are being performed, and shall have access, upon reasonable request, to interim drafts of Deliverables or work-in-progress. Upon ten (10) Days prior written notice and during business hours, the State's representatives shall be allowed to inspect, monitor, or otherwise evaluate the work being performed and to the extent that such access will not interfere or jeopardize the safety or operation of the systems or facilities. Contractor must provide all reasonable facilities and assistance for the State's representatives, so long as no security, labor relations policies and propriety information policies are violated.

(b) Examination of Records. No more than once per year, Contractor agrees that the State, including its duly authorized representatives, until the expiration of seven (7) years following the creation of the material (collectively, the "Audit Period"), shall, upon twenty (20) days prior written notice, have access to and the right to examine and copy any of Contractor's books, records, documents and papers pertinent to establishing Contractor's compliance with the terms and conditions of the Contract and with applicable laws and rules, including the State's procurement rules, regulations and procedures, and actual performance of the Contract for the purpose of conducting an audit, examination, excerpt and/or transcription but the State shall not have access to any information deemed confidential to Contractor to the extent such access would require such confidential information to become publicly available. This provision also applies to the books, records, accounts, documents and papers, in print or electronic form, of any parent, affiliated or subsidiary organization of Contractor, or any Subcontractor of Contractor performing services in connection with the Contract.

(c) Retention of Records. Contractor shall maintain at least until the end of the Audit Period all pertinent financial and accounting records (including time sheets and payroll records, and information pertaining to the Contract and to the Services, equipment, and commodities provided under the Contract) pertaining to the Contract in accordance with generally accepted accounting principles and other procedures specified in this Section. Financial and accounting records shall be made available, upon request, to the State at any time during the Audit Period. If an audit, litigation, or other action involving Contractor's records is initiated before the end of the Audit Period, the records must be retained until all issues arising out of the audit, litigation, or other action are resolved or until the end of the Audit Period, whichever is later.

(d) Audit Resolution. If necessary, the Contractor and the State shall meet to review each audit report promptly after issuance. The Contractor will respond to each audit report in writing within thirty (30) days from receipt of such report, unless a shorter response time is specified in such report. The Contractor and the State shall develop and agree upon an action plan to promptly address and resolve any deficiencies, concerns, and/or recommendations in such audit report.

1. Errors. If the audit demonstrates any errors in the statements provided to the State, then the amount in error shall be reflected as a credit or debit on the next invoice and in subsequent invoices until the amount is paid or refunded in full. However, a credit or debit may not be carried for more than four (4) quarterly statements. If a balance remains after four (4) quarterly statements, then the remaining amount will be due as a payment or refund within forty-five (45) days of the last quarterly statement that the balance appeared on or termination of the contract, whichever is earlier.

2. In addition to other available remedies, the difference between the payment received and the correct payment amount is greater than ten (10%), then the Contractor shall pay all of the reasonable costs of the audit.

## 2.5 Quality and Warranties

### 2.501 PROHIBITED PRODUCTS

The State will not accept salvage, distressed, outdated or discontinued merchandise. Shipping of such merchandise to any State agency, as a result of an order placed against the Contract, shall be considered default by the Contractor of the terms and conditions of the Contract and may result in cancellation of the Contract by the State. The brand and product number offered for all items shall remain consistent for the term of the Contract, unless Purchasing Operations has approved a change.

### 2.502 RESERVED

Section not applicable at this time.

### 2.503 RESERVED

Section not applicable at this time.

### 2.504 GENERAL WARRANTIES (goods)

*Warranty of Merchantability* – Goods provided by Contractor under this agreement shall be merchantable. All goods provided under this contract shall be of good quality within the description given by the State, shall be fit for their ordinary purpose, shall be adequately contained and packaged within the description given by the State, shall conform to the agreed upon specifications, and shall conform to the affirmations of fact made by the Contractor or on the container or label.

*Warranty of fitness for a particular purpose* – When Contractor has reason to know or knows any particular purpose for which the goods are required, and the State is relying on the Contractor's skill or judgment to select or furnish suitable goods, there is a warranty that the goods are fit for such purpose.

*Warranty of title* – Contractor shall, in providing goods to the State, convey good title in those goods, whose transfer is right and lawful. All goods provided by Contractor shall be delivered free from any security interest, lien, or encumbrance of which the State, at the time of contracting, has no knowledge. Goods provided by Contractor, under this agreement, shall be delivered free of any rightful claim of any third person by of infringement or the like.

### 2.505 CONTRACTOR WARRANTIES

The Contract will contain customary representations and warranties by the Contractor, including, without limitation, the following:

1. The Contractor will perform all services in accordance with high professional standards in the industry;

2. The Contractor will use adequate numbers of qualified individuals with suitable training, education, experience and skill to perform the services;

3. The Contractor will use its best efforts to use efficiently any resources or services necessary to provide the services that are separately chargeable to the State;

4. The Contractor will use its best efforts to perform the services in the most cost effective manner consistent with the required level of quality and performance;

5. The Contractor will perform the services in a manner that does not infringe the proprietary rights of any third party;

6. The Contractor will perform the services in a manner that complies with all applicable laws and regulations;

7. The Contractor has duly authorized the execution, delivery and performance of the Contract;

8. The Contractor is capable in all respects of fulfilling and shall fulfill all of its obligations under this contract.

9. The contract appendices, attachments, and exhibits identify all equipment and software services necessary for the deliverable(s) to perform and operate in compliance with the contract's requirements.

10. The Contractor is the lawful owner or licensee of any Deliverable licensed or sold to the state by Contractor or developed by Contractor under this contract, and Contractor has all of the rights necessary to convey to the state the ownership rights or license use, as applicable, of any and all Deliverables.

11. If, under this Contract, Contractor procures any equipment, software or other Deliverable for the State (including equipment, software and other Deliverables manufactured, re-marketed or otherwise sold by Contractor under Contractor's name), then in addition to Contractor's other responsibilities with respect to such items as set forth in this Contract, Contractor shall assign or otherwise transfer to the State or its designees, or afford the State the benefits of, any manufacturer's warranty for the Deliverable.

12. The contract signatory has the power and authority, including any necessary corporate authorizations, necessary to enter this contract, on behalf of Contractor.

13. The Contractor is qualified and registered to transact business in all locations where required.

14. Neither the Contractor nor any Affiliates, nor any employee of either, has, shall have, or shall acquire, any contractual, financial, business, or other interest, direct or indirect, that would conflict in any manner or degree with Contractor's performance of its duties and responsibilities to the State under this Contract or otherwise create an appearance of impropriety with respect to the award or performance of this Agreement. Contractor shall notify the State within two (2) days of any such interest that may be incompatible with the interests of the State.

15. All financial statements, reports, and other information furnished by Contractor to the State as part of its response to the ITB or otherwise in connection with the award of this Contract fairly and accurately represent the business, properties, financial condition, and results of operations of Contractor as of the respective dates, or for the respective periods, covered by such financial statements, reports, other information. Since the respective dates or periods covered by such financial statements, reports, or other information, there have been no material adverse changes in the business, properties, financial condition, or results of operations of Contractor. All written information furnished to the State by or behalf of Contractor in connection with this Contract, including its bid, it true, accurate, and complete, and contains no untrue statement of material fact or omits any material fact necessary to make such information not misleading.

**2.506 STAFF**

The State reserves the right to approve the Contractor's assignment of Key Personnel to this project and to recommend reassignment of personnel deemed unsatisfactory by the State. The Contractor shall not remove or reassign, without the State's prior written approval, any of the Key Personnel until such time as the Key Personnel have completed all of their planned and assigned responsibilities in connection with performance of the Contractor's obligations under this Contract.

The Contractor agrees that the continuity of Key Personnel is critical and agrees to the continuity of Key Personnel. Removal of Key Personnel without the written consent of the State may be considered by the State to be a material breach of this Contract. The prohibition against removal or reassignment shall not apply where Key Personnel must be replaced for reasons beyond the reasonable control of the Contractor including but not limited to illness, disability, resignation or termination of the Key Personnel's employment.

**2.507 SOFTWARE WARRANTIES**

(a) Performance Warranty

The Contractor represents and warrants that Deliverables, after Final Acceptance, will perform and operate in compliance with the requirements and other standards of performance contained in this Contract (including all descriptions, specifications and drawings made a part of the Contract) for a period of ninety (90) days. In the event of a breach of this warranty, Contractor will promptly correct the affected Deliverable(s) at no charge to the State.

(b) No Surreptitious Code Warranty

The Contractor represents and warrants that no copy of licensed Software provided to the State contains or will contain in any Self-Help Code or any Unauthorized Code as defined below. This warranty is referred to in this Contract as the "No Surreptitious Code Warranty."

As used in this Contract, "Self-Help Code" means any back door, time bomb, drop dead device, or other software routine designed to disable a computer program automatically with the passage of time or under the positive control of a person other than the licensee of the software. Self-Help Code does not include Software routines in a computer program, if any, designed to permit an owner of the computer program (or other person acting by authority of the owner) to obtain access to a licensee's computer system(s) (e.g. remote access via modem) for purposes of maintenance or technical support.

As used in this Contract, "Unauthorized Code" means any virus, Trojan horse, spyware, worm or other Software routines or components designed to permit unauthorized access to disable, erase, or otherwise harm software, equipment, or data; or to perform any other such actions. The term Unauthorized Code does not include Self-Help Code.

In addition, Contractor will use up-to-date commercial virus detection software to detect and remove any viruses from any software prior to delivering it to the State.

(c) Calendar Warranty

The Contractor represents and warrants that all software for which the Contractor either sells or licenses to the State of Michigan and used by the State prior to, during or after the calendar year 2000, includes or shall include, at no added cost to the State, design and performance so the State shall not experience software abnormality and/or the generation of incorrect results from the software, due to date oriented processing, in the operation of the business of the State of Michigan.

The software design, to insure calendar year rollover compatibility, shall include, but is not limited to: data structures (databases, data files, etc.) that provide 4-digit date century; stored data that contain date century recognition, including, but not limited to, data stored in databases and hardware device internal system dates; calculations and program logic (e.g., sort algorithms, calendar generation, event recognition, and all processing actions that use or produce date values) that accommodates same century and multi-century formulas and date values; interfaces that supply data to and receive data from other systems or organizations that prevent non-compliant dates and data from entering any State system; user interfaces (i.e., screens, reports, etc.) that accurately show 4 digit years; and assurance that the year 2000 shall be correctly treated as a leap year within all calculation and calendar logic.

(d) Third-party Software Warranty

The Contractor represents and warrants that it will disclose the use or incorporation of any third-party software into the Deliverables. At the time of Delivery, the Contractor shall provide in writing the name and use of any Third-party Software, including information regarding the Contractor's authorization to include and utilize such software. The notice shall include a copy of any ownership agreement or license that authorizes the Contractor to use the Third-party Software.

**2.508 EQUIPMENT WARRANTY**
**RESERVED**

**2.509 PHYSICAL MEDIA WARRANTY**

Contractor represents and warrants that each licensed copy of the Software provided by the Contractor is free from physical defects in the media that tangibly embodies the copy. This warranty does not apply to defects discovered more than thirty (30) days after that date of Final Acceptance of the Software by the State. This warranty does not apply to defects arising from acts of Excusable Failure. If the Contractor breaches this warranty, then the State shall be entitled to replacement of the non-compliant copy by Contractor, at Contractor's expense (including shipping and handling).

## 2.6 Breach of Contract

**2.601 BREACH DEFINED**

Failure to comply with articles, sections, or subsections of this agreement, or making any false statement in this agreement will be considered a material breach of this agreement giving the state authority to invoke any and all remedies available to it under this agreement.

In addition to any remedies available in law and by the terms of this contract, if the Contractor breaches Sections 2.508, 2.509, or 2.510, such a breach may be considered as a default in the performance of a material obligation of this contract.

**2.602 NOTICE AND THE RIGHT TO CURE**

In the event of a curable breach by the Contractor, the State shall provide the Contractor written notice of the breach and a time period to cure said breach described in the notice. This section requiring notice and an opportunity to cure shall not be applicable in the event of successive or repeated breaches of the same nature or if the State determines in its sole discretion that the breach poses a serious and imminent threat to the health or safety of any person or the imminent loss, damage or destruction of any real or tangible personal property.

**2.603 EXCUSABLE FAILURE**

1. Neither party shall be liable for any default or delay in the performance of its obligations under the Contract if and to the extent such default or delay is caused, directly or indirectly, by: fire, flood, earthquake, elements of nature or acts of God; riots, civil disorders, rebellions or revolutions in any country; the failure of the other party to perform its material responsibilities under the Contract (either itself or through another Contractor); injunctions (provided the injunction was not issued as a result of any fault or negligence of the party seeking to have its default or delay excused); or any other cause beyond the reasonable control of such party; provided the non-performing party and its subcontractors are without fault in causing such default or delay, and such default or delay could not have been prevented by reasonable precautions and cannot reasonably be circumvented by the non-performing party through the use of alternate sources, workaround plans or other means, including disaster recovery plans. In such event, the non-performing party will be excused from any further performance or observance of the obligation(s) so affected for as long as such circumstances prevail and such party continues to use its best efforts to recommence performance or observance whenever and to whatever extent possible without delay

provided such party promptly notifies the other party in writing of the inception of the excusable failure occurrence, and also of its abatement or cessation.

2. If any of the above enumerated circumstances substantially prevent, hinder, or delay performance of the services necessary for the performance of the State's functions for more than 14 consecutive days, and the State determines that performance is not likely to be resumed within a period of time that is satisfactory to the State in its reasonable discretion, then at the State's option: (a) the State may procure the affected services from an alternate source, and the State shall not be liable for payments for the unperformed services under the Contract for so long as the delay in performance shall continue; (b) the State may cancel any portions of the Contract so affected and the charges payable hereunder shall be equitably adjusted to reflect those services canceled; or (c) the Contract will be canceled without liability of the State to the Contractor as of the date specified by the State in a written notice of cancellation to the Contractor. The Contractor will not have the right to any additional payments from the State as a result of any excusable failure occurrence or to payments for services not rendered as a result of the excusable failure condition. Defaults or delays in performance by the Contractor which are caused by acts or omissions of its subcontractors will not relieve the Contractor of its obligations under the Contract except to the extent that a subcontractor is itself subject to any excusable failure condition described above and the Contractor cannot reasonably circumvent the effect of the subcontractor's default or delay in performance through the use of alternate sources, workaround plans or other means.

## 2.7 Remedies

### 2.701 CANCELLATION

The State may cancel this Contract without further liability or penalty to the State, its departments, divisions, agencies, offices, commissions, officers, agents, and employees for any of the following reasons:

1. Material Breach by the Contractor. In the event that the Contractor breaches any of its material duties or obligations under the Contract, which are either not capable of or subject to being cured, or are not cured within the time period specified in the written notice of breach provided by the State, or pose a serious and imminent threat to the health and safety of any person, or the imminent loss, damage or destruction of any real or tangible personal property, the State may, having provided written notice of cancellation to the Contractor, cancel this Contract in whole or in part, for cause, as of the date specified in the notice of cancellation.

   In the event that this Contract is cancelled for cause, in addition to any legal remedies otherwise available to the State by law or equity, the Contractor shall be responsible for all costs incurred by the State in canceling the Contract, including but not limited to, State administrative costs, attorneys fees and court costs, and any additional costs the State may incur to procure the services required by this Contract from other sources. All excess re-procurement costs and damages shall not be considered by the parties to be consequential, indirect or incidental, and shall not be excluded by any other terms otherwise included in the Contract.

   In the event the State chooses to partially cancel this Contract for cause charges payable under this Contract will be equitably adjusted to reflect those services that are cancelled.

   In the event this Contract is cancelled for cause pursuant to this section, and it is therefore determined, for any reason, that the Contractor was not in breach of contract pursuant to the provisions of this section, that cancellation for cause shall be deemed to have been a cancellation for convenience, effective as of the same date, and the rights and obligations of

the parties shall be limited to that otherwise provided in the Contract for a cancellation for convenience.

2. Cancellation For Convenience By the State. The State may cancel this Contract for its convenience, in whole or part, if the State determines that such a cancellation is in the State's best interest. Reasons for such cancellation shall be left to the sole discretion of the State and may include, but not limited to (a) the State no longer needs the services or products specified in the Contract, (b) relocation of office, program changes, changes in laws, rules, or regulations make implementation of the Contract services no longer practical or feasible, and (c) unacceptable prices for additional services requested by the State. The State may cancel the Contract for its convenience, in whole or in part, by giving the Contractor written notice 30 days prior to the date of cancellation. If the State chooses to cancel this Contract in part, the charges payable under this Contract shall be equitably adjusted to reflect those services that are cancelled.

3. Non-Appropriation. In the event that funds to enable the State to effect continued payment under this Contract are not appropriated or otherwise made available. The Contractor acknowledges that, if this Contract extends for several fiscal years, continuation of this Contract is subject to appropriation or availability of funds for this project. If funds are not appropriated or otherwise made available, the State shall have the right to cancel this Contract at the end of the last period for which funds have been appropriated or otherwise made available by giving written notice of cancellation to the Contractor. The State shall give the Contractor written notice of such non-appropriation or unavailability within 30 days after it receives notice of such non-appropriation or unavailability.

4. Criminal Conviction. In the event the Contractor, an officer of the Contractor, or an owner of a 25% or greater share of the Contractor, is convicted of a criminal offense incident to the application for or performance of a State, public or private Contract or subcontract; or convicted of a criminal offense including but not limited to any of the following: embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, attempting to influence a public employee to breach the ethical conduct standards for State of Michigan employees; convicted under State or federal antitrust statutes; or convicted of any other criminal offense which in the sole discretion of the State, reflects upon the Contractor's business integrity.

5. Approvals Rescinded. The State may terminate this Contract without further liability or penalty in the event any final administrative or judicial decision or adjudication disapproves a previously approved request for purchase of personal services pursuant to Constitution 1963, Article 11, section 5, and Civil Service Rule 7. Termination may be in whole or in part and may be immediate as of the date of the written notice to Contractor or may be effective as of the date stated in such written notice.

**2.702 RIGHTS UPON CANCELLATION**

**A. Rights and Obligations Upon Termination**

(1) If this Contract is terminated by the State for any reason, Contractor shall (a) stop all work as specified in the notice of termination, (b) take any action that may be necessary, or that the State may direct, for preservation and protection of Deliverables or other property derived or resulting from this Contract that may be in Contractor's possession, (c) return all materials and property provided directly or indirectly to Contractor by any entity, agent or employee of the State, (d) in the event that the Contractor maintains title in equipment and software that is intended to be transferred to the State at the termination of the Contract, Contractor will transfer title in, and deliver to, the State, unless otherwise directed, all Deliverables and other Developed Materials intended to be transferred to the State at the termination of the Contract and

which are resulting from the Contract (which shall be provided to the State on an "As-Is" basis except to the extent the amounts paid by the State in respect of such items included compensation to Contractor for the provision of warranty services in respect of such materials), and (e) take any action to mitigate and limit any potential damages, or requests for Contractor adjustment or termination settlement costs, to the maximum practical extent, including terminating or limiting as otherwise applicable those subcontracts and outstanding orders for material and supplies resulting from the terminated Contract.

(2) In the event the State terminates this Contract prior to its expiration for its own convenience, the State shall pay Contractor for all charges due for Services provided prior to the date of termination and, if applicable, as a separate item of payment pursuant to this Contract, for partially completed Deliverables, on a percentage of completion basis. All completed or partially completed Deliverables prepared by Contractor pursuant to this Contract shall, at the option of the State, become the State's property, and Contractor shall be entitled to receive equitable fair compensation for such Deliverables. Regardless of the basis for the termination, the State shall not be obligated to pay, or otherwise compensate, Contractor for any lost expected future profits, costs or expenses incurred with respect to Services not actually performed for the State.

(3.) If any such termination by the State is for cause, the State shall have the right to set-off against any amounts due Contractor the amount of any damages for which Contractor is liable to the State under this Contract or pursuant to law or equity.

(4.) Upon a good faith termination, the State shall have the right to assume, at its option, any and all subcontracts and agreements for services and materials provided under this Contract, and may further pursue completion of the Services under this Contract by replacement contract or otherwise as the State may in its sole judgment deem expedient.

**B. Termination Assistance**

If the Contract (or any Statement of Work issued under it) is terminated for any reason before completion, Contractor agrees to provide for up to two-hundred seventy (270) calendar days after the termination all reasonable termination assistance requested by the State to facilitate the orderly transfer of such Services to the State or its designees in a manner designed to minimize interruption and adverse effect. Such termination assistance will be deemed by the parties to be governed by the terms and conditions of the Contract (notwithstanding its termination) other than any terms or conditions that do not reasonably apply to such termination assistance. The State shall compensate Contractor for such termination assistance at the same rates and charges set forth in the Contract on a time and materials basis in accordance with the Labor Rates indicated within Contractors pricing section. If the Contract is terminated by Contractor under **Section 20**, then Contractor may condition its provision of termination assistance under this Section on reasonable assurances of payment by the State for such assistance, and any other amounts owed under the Contract.

**C. Reservation of Rights**

Any termination of the Contract or any Statement of Work issued under it by a party shall be with full reservation of, and without prejudice to, any rights or remedies otherwise available to such party with respect to any claims arising prior to or as a result of such termination.

**D. End of Contract Transition**

In the event the Contract is terminated, for convenience or cause, or upon expiration, the Contractor agrees to comply with direction provided by the State to assist in the orderly transition of equipment, services, software, leases, etc. to the State or a third party designated by the State. In the event of termination or the expiration of the Contract, the Contractor agrees to make all reasonable efforts to effect an orderly transition of services within a reasonable period of time that in no event will exceed 270 calendar days. These efforts shall include, but are not limited to, the following:

(1) Personnel - The Contractor shall work with the State, or a specified third party, to develop a transition plan setting forth the specific tasks and schedule to be accomplished by the parties, to effect an orderly transition. The Contractor shall allow as many personnel as practicable to remain on the job to help the State, or a specified third party, maintain the continuity and consistency of the services required by the Contract. In addition, during or following the transition period, in the event the State requires the Services of the Contractor's subcontractors, as necessary to meet its needs, Contractor agrees to reasonably, and with good-faith, work with the State to use the Services of Contractor's subcontractors.

(2) Knowledgeable Personnel. Contractor will make available to the State or a Third Party Provider knowledgeable personnel familiar with the operational processes and procedures used to deliver products and services to the State. The Contractor personnel will work with the State or third party to help develop a mutually agreeable transition plan, work to transition the process of ordering, shipping and invoicing equipment and services to the State.

(3) Information - The Contractor agrees to provide reasonable detailed specifications for all Services needed by the State, or specified third party, to properly provide the services required under the Contract. The Contractor will also provide any licenses required to perform the Services under the Contract.

(4) Software. - The Contractor shall reasonably assist the State in the acquisition of any Contractor software required to perform the Services under the Contract. This shall include any documentation being used by the Contractor to perform the Services under the Contract. If the State transfers any software licenses to the Contractor, those licenses shall, upon expiration of the Contract, transfer back to the State at their current revision level.

(5) Payment - If the transition results from a termination for any reason, reimbursement shall be governed by the termination provisions of the Contract. If the transition results from expiration, the Contractor will be reimbursed for all reasonable transition costs (i.e. costs incurred within the agreed period after Contract expiration that result from transition operations). The hourly rates or fixed price to be charged will be agreed upon prior to the work commencing.

(6) Single Point of Contact. Contractor will maintain a Single Point of Contact (SPOC) for the State after termination of the Contract until all product and service obligations have expired.

**E. Transition out of this Contract**

(1) In the event that this Contract is terminated, dissolved, voided, rescinded, nullified, or otherwise rendered unenforceable, the Contractor agrees to perform the following obligations, and any others upon which the State and the Contractor agree:

(i) Cooperating with any Contractors, Contractors, or other entities with whom the State contracts to meet its telecommunication needs, for at least two hundred and seventy (270) days after the termination of this Contract;
(ii) Reserved.
(iii) Providing the State with all asset management data generated from the inception of this Contract through the date on which this Contract is terminated, in a comma-deliminated format unless otherwise required by the Program Office;
(iv) Reconciling all accounts between the State and the Contractor;
(v) Allowing the State to request the winding up of any pending or ongoing projects at the price to which the State and the Contractor agreed at the inception of the project;
(vi) Freezing all non-critical software changes;
(vii) Notifying all of the Contractor's subcontractors of procedures to be followed during the transition out phase;
(viii) Assisting with the communications network turnover, if applicable;
(ix) Assisting in the execution of a parallel operation until the effective date of termination of this Contract
(x) Answering questions regarding post-migration services;
(xi) Delivering to the State any remaining owed reports and documentation still in the Contractor's possession.

(2) In the event that this Contract is terminated, dissolved, voided, rescinded, nullified, or otherwise rendered unenforceable, the State agrees to perform the following obligations, and any others upon which the State and the Contractor agree:

(i) Reconciling all accounts between the State and the Contractor;
(ii) Completing any pending post-project reviews.

**2.703 LIQUIDATED DAMAGES**

**RESERVED** – Section Not applicable at this time.

**2.704 STOP WORK**

1. The State may, at any time, by written stop work order to the Contractor, require that the Contractor stop all, or any part, of the work called for by this Contract for a period of up to 90 days after the stop work order is delivered to the Contractor, and for any further period to which the parties may agree. The stop work order shall be specifically identified as such and shall indicate that it is issued under this section. Upon receipt of the stop work order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the stop work order during the period of work stoppage. Within the period of the stop work order, the State shall either:

a) Cancel the stop work order; or
b) Cancel the work covered by the stop work order as provided in the cancellation section of this Contract.

2. If a stop work order issued under this section is canceled or the period of the stop work order or any extension thereof expires, the Contractor shall resume work. The State shall make an equitable adjustment in the delivery schedule, the contract price, or both, and the Contract shall be modified, in writing, accordingly, if:

a) The stop work order results in an increase in the time required for, or in the Contractor's costs properly allocable to the performance of any part of this Contract; and
b) The Contractor asserts its right to an equitable adjustment within 30 days after the end of the period of work stoppage; provided, that if the State decides the facts justify the

action, the State may receive and act upon a proposal submitted at any time before final payment under this Contract.

3. If the stop work order is not canceled and the work covered by the stop work order is canceled for reasons other than material breach, the State shall allow reasonable costs resulting from the stop work order in arriving at the cancellation settlement.

4. If a stop work order is not canceled and the work covered by the stop work order is canceled for material breach, the State shall not allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop work order.

An appropriate equitable adjustment may be made in any related contract of the Contractor that provides for adjustment and is affected by any stop work order under this section. The State shall not be liable to the Contractor for loss of profits because of a stop work order issued under this section.

### 2.705 SUSPENSION OF WORK

The Contract Administrator may order the Contractor, in writing, to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contract Administrator determines appropriate for the convenience of the Government.

If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Contract Administrator in the administration of this contract, or (2) by the Contract Administrator's failure to act within the time specified in this contract (or within a reasonable time if not specified), an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by the unreasonable suspension, delay, or interruption, and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor, or for which an equitable adjustment is provided for or excluded under any other term or condition of this contract.

A claim under this clause shall not be allowed:

(1) For any costs incurred more than 20 days before the Contractor shall have notified the Contract Administrator in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order); and
(2) Unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the suspension, delay, or interruption, but not later than the date of final payment under the contract.

## 2.8 Changes, Modifications, and Amendments

### 2.801 APPROVALS

The Contract may not be modified, amended, extended, or augmented except by a writing executed by the parties hereto, and any breach or default by a party shall not be waived or released other than in writing signed by the other party.

### 2.802 TIME EXTENTIONS

Time extensions for contract changes will depend upon the extent, if any, by which the changes cause delay in the completion of the various elements of performance as described in the statement of work. The change order granting the time extension may provide that the contract completion date will be extended only for those specific elements related to the changed work and that the remaining contract completion dates for all other portions of the work will not be altered. The change order also may provide an equitable readjustment of liquidated damages under the new completion schedule.

**2.803 MODIFICATION**

Purchasing Operations reserves the right to modify this contract at any time during the contract term. Such modification may include changing the locations to be serviced, additional locations to be serviced, method or manner of performance of the work, number of days service is to be performed, addition or deletion of tasks to be performed, addition or deletion of items, and/or any other modifications deemed necessary. Any changes in pricing proposed by the Contractor resulting from the proposed changes are subject to acceptance by the State. Changes may be increases or decreases. IN THE EVENT PRICES ARE NOT ACCEPTABLE TO THE STATE, THE CONTRACT SHALL BE SUBJECT TO COMPETITIVE BIDDING BASED UPON THE NEW SPECIFICATION.

**The State reserves the right to add an item(s) that is not described on the item listing and is available from the Contract Contractor.** The item(s) may be included on the Contract, only if prior written approval has been granted by Purchasing Operations.

**2.804 AUDIT AND RECORDS UPON MODIFICATION**

DEFINITION: records includes books, documents, accounting procedures and practices, and other data, regardless of whether such items are in written form, electronic form, or in any other form

Contractor shall be required to submit cost or pricing data with the pricing of any modification of this contract to the Contract Administrator in Purchasing Operations. Data may include accounting records, payroll records, employee time sheets, and other information the state deems necessary to perform a fair evaluation of the modification proposal. Contract Administrator or authorized representative of the state shall have the right to examine and audit all of the Contractor's records, including computations and projections, related to:

1. The proposal for modification;
2. The discussions conducted on the proposal, including those related to negotiation;
3. Pricing of the modification; or
4. Performance of the modification.

Contractor shall make available at its office at all reasonable times the materials described in the paragraphs above.

If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for 3 years after any resulting final termination settlement.

**2.805 CHANGES**

(a) The Contract Administrator may, at any time, without notice to the sureties, if any, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract, including changes:

(1) In the specifications (including drawings and designs);
(2) In the method or manner of performance of the work;
(3) In the Government-furnished facilities, equipment, materials, services, or site; or
(4) Directing acceleration in the performance of the work.

(a) Any other written or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Contract Administrator that causes a change shall be treated as a change order under this clause; Provided, that the Contractor gives the Contract Administrator written notice stating:

(1) The date, circumstances, and source of the order; and
(2) That the Contractor regards the order as a change order.

(b) Except as provided in this clause, no order, statement, or conduct of the Contract Administrator shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.

**2.9 CONTRACTOR'S CERTIFICATIONS AND REPRESENTATIONS**

**All terms and conditions, included in Article 3 from the Contractor's Proposal, are hereby considered part of this contract by this reference**, including but not limited to the following:

**2.901 Disclosure of Litigation**

Contractor must disclose any material criminal litigation, investigations or proceedings involving the Contractor (and each Subcontractor) or any of its officers or directors.

(a) In addition, each Contractor (and each Subcontractor) must notify the State of any material civil litigation, arbitration or proceeding which arises during the term of the Contract and extensions thereto, to which Contractor (or, to the extent Contractor is aware, any Subcontractor hereunder) is a party, and which involves:

g. Disputes that might reasonably be expected to adversely affect the viability or financial stability of Contractor or any Subcontractor hereunder; or

h. A claim or written allegation of fraud against Contractor or, to the extent Contractor is aware, any Subcontractor hereunder by a governmental or public entity arising out of their business dealings with governmental or public entities.

i. Any such litigation, investigation, arbitration or other proceeding (collectively, "Proceeding") must be disclosed in a written statement to the Contract Administrator within thirty (30) calendar days of its occurrence. Details of settlements which are prevented from disclosure by the terms of the settlement may be annotated as such. Information provided to the State from Contractor's publicly filed documents referencing its material litigation will be deemed to satisfy the requirements of this Section 24.3(a).

(b) Assurances. In the event that any such Proceeding disclosed to the State pursuant to this Section, or of which the State otherwise becomes aware, during the term of the Contract would cause a reasonable party to be concerned about:

(i) The ability of Contractor (or a Subcontractor hereunder) to continue to perform the Contract in accordance with its terms and conditions, or

(ii) Whether Contractor (or a Subcontractor hereunder) in performing Services for the State is engaged in conduct which is similar in nature to conduct alleged in such Proceeding, which conduct would constitute a breach of the Contract or a violation of Michigan law, regulations or public policy, then Contractor shall be required to provide the State all reasonable assurances requested by the State to demonstrate that: (A) Contractor and/or its Subcontractors hereunder will be able to continue to perform the Contract and any Statements of Work in accordance with its terms and conditions, and (B) Contractor and/or its Subcontractors hereunder have not and will not engage in conduct in performing the Services which is similar in nature to the conduct alleged in such Proceeding.

**2.902 Liability Insurance**

(a) Liability Insurance

The Contractor is required to provide proof of the minimum levels of insurance coverage as indicated below. The purpose of this coverage shall be to protect the State from claims which may arise out of or result from the Contractor's performance of services under the terms of this Contract, whether such services are performed by the Contractor, or by any subcontractor, or by anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable.

The Contractor waives all rights against the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and agents for recovery of damages to the extent these damages are covered by the insurance policies the Contractor is required to maintain pursuant to this Contract.

All insurance coverages provided relative to this Contract/Purchase Order are PRIMARY and NON-CONTRIBUTING to any comparable liability insurance (including self-insurances) carried by the State.

The insurance shall be written for not less than any minimum coverage specified in this Contract or required by law, whichever is greater.

The insurers selected by Contractor shall have an A.M. Best rating of A or better, or as otherwise approved in writing by the State, or if such ratings are no longer available, with a comparable rating from a recognized insurance rating agency. All policies of insurance required in this Contract shall be issued by companies that have been approved to do business in the State. See http://www.mi.gov/cis/0,1607,7-154-10555_22535---,00.html.

Where specific limits are shown, they are the minimum acceptable limits. If Contractor's policy contains higher limits, the State shall be entitled to coverage to the extent of such higher limits.

Before the Contract is signed by both parties or before the purchase order is issued by the State, the Contractor must furnish to the Director of Purchasing Operations, certificate(s) of insurance verifying insurance coverage ("Certificates"). The Certificate must be on the standard "accord" form or equivalent. **THE CONTRACT OR PURCHASE ORDER NO. MUST BE SHOWN ON THE CERTIFICATE OF INSURANCE TO ASSURE CORRECT FILING.** All Certificate(s) are to be prepared and submitted by the Insurance Provider. All Certificate(s) shall contain a provision indicating that coverages afforded under the policies WILL NOT BE CANCELLED, MATERIALLY CHANGED, OR NOT RENEWED without THIRTY (30) days prior written notice, except for ten (10) days for non-payment of premium, having been given to the Director of Purchasing Operations, Department of Management and Budget. The notice must include the Contract or Purchase Order number affected and be mailed to: Director, Purchasing Operations, Department of Management and Budget, P.O. Box 30026, Lansing, Michigan 48909. Failure to provide evidence of coverage, may, at the State's sole option, result in this Contract's termination.

The Contractor is required to pay for and provide the type and amount of insurance checked ☑ below:

☑ 1. Commercial General Liability with the following minimum coverage:

$2,000,000 General Aggregate Limit other than Products/Completed Operations
$2,000,000 Products/Completed Operations Aggregate Limit
$1,000,000 Personal & Advertising Injury Limit
$1,000,000 Each Occurrence Limit
$500,000 Fire Damage Limit (any one fire)

The Contractor must list the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and agents as ADDITIONAL INSUREDS on the Commercial General Liability certificate. The Contractor also agrees to provide evidence that insurance policies contain a waiver of subrogation by the insurance company.

☑ 2. If a motor vehicle is used to provide services or products under this Contract, the Contractor must have vehicle liability insurance on any auto including owned, hired and non-owned vehicles used in Contractor's business for bodily injury and property damage as required by law.

The Contractor must list the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and agents as ADDITIONAL INSUREDS on the vehicle liability certificate. The Contractor also agrees to provide evidence that insurance policies contain a waiver of subrogation by the insurance company.

☑ 3. Workers' compensation coverage must be provided in accordance with applicable laws governing the employees and employers work activities in the state of the Contractor's domicile. If the applicable coverage is provided by a self-insurer, proof must be provided of approved self-insured authority by the jurisdiction of domicile. For employees working outside of the state of qualification, Contractor must provide appropriate certificates of insurance proving mandated coverage levels for the jurisdictions where the employees' activities occur.

Any certificates of insurance received must also provide a list of states where the coverage is applicable.

The Contractor also agrees to provide evidence that insurance policies contain a waiver of subrogation by the insurance company. This provision shall not be applicable where prohibited or limited by the laws of the jurisdiction in which the work is to be performed.

☑ 4. Employers liability insurance with the following minimum limits:

$100,000 each accident
$100,000 each employee by disease
$500,000 aggregate disease

☐ 5. Employee Fidelity, including Computer Crimes, insurance naming the State as a loss payee, providing coverage for direct loss to the State and any legal liability of the State arising out of or related to fraudulent or dishonest acts committed by the employees of Contractor or its Subcontractors, acting alone or in collusion with others, in a minimum amount of one million dollars ($1,000,000.00) with a maximum deductible of fifty thousand dollars ($50,000.00).

☐ 6. Umbrella or Excess Liability Insurance in a minimum amount of ten million dollars ($10,000,000.00), which shall apply, at a minimum, to the insurance required in Subsection 1 (Commercial General Liability) above.

☐ 7. Professional Liability (Errors and Omissions) Insurance with the following minimum coverage: three million dollars ($3,000,000.00) each occurrence and three million dollars ($3,000,000.00) annual aggregate.

☐ 8. Fire and Personal Property Insurance covering against any loss or damage to the office space used by Contractor for any reason under this Contract, and the equipment, software and other contents of such office space, including without limitation, those contents used by Contractor to provide the Services to the State, up to the replacement value thereof, where such office space and its contents are under the care, custody and control of Contractor. Such policy shall cover all risks of direct physical loss or damage, including without limitation, flood and earthquake coverage and coverage for computer hardware and software. The State shall be endorsed on the policy as a loss payee as its interests appear.

(b) Subcontractors

Except where the State has approved in writing a Contractor subcontract with other insurance provisions, Contractor shall require all of its Subcontractors under this Contract to purchase and maintain the insurance coverage as described in this Section for the Contractor in connection with the performance of work by those Subcontractors. Alternatively, Contractor may include any Subcontractors under Contractor's insurance on the coverage required in this Section.

Subcontractor(s) shall fully comply with the insurance coverage required in this Section. Failure of Subcontractor(s) to comply with insurance requirements does not limit Contractor's liability or responsibility.

(c) Certificates of Insurance and Other Requirements

Contractor shall furnish to the office of Purchasing Operations certificate(s) of insurance verifying insurance coverage or providing satisfactory evidence of self-insurance as required in this Section (the "Certificates"). Before the Contract is signed, and not less than 20 days before the insurance expiration date every year thereafter, the Contractor shall provide evidence that the State and its agents, officers and employees are listed as additional insureds under each commercial general liability and commercial automobile liability policy. In the event the State approves the representation of the State by the insurer's attorney, the attorney may be required to be designated as a Special Assistant Attorney General by the Attorney General of the State of Michigan.

Contractor shall maintain all required insurance coverage throughout the term of the Contract and any extensions thereto and, in the case of claims-made Commercial General Liability policies, shall secure tail coverage for at least three (3) years following the expiration or termination for any reason of this Contract. The minimum limits of coverage specified above are not intended, and shall not be construed, to limit any liability or indemnity of Contractor under this Contract to any indemnified party or other persons. Contractor shall be responsible for all deductibles with regard to such insurance. If Contractor fails to pay any premium for required insurance as specified in this Contract, or if any insurer cancels or significantly reduces any required insurance as specified in this Contract without the State's written consent, at the State's election (but without any obligation to do so) after the State has given Contractor at least thirty (30) days written notice, the State may pay such premium or procure similar insurance coverage from another company or companies; and at the State's election, the State may deduct the entire cost (or part thereof) from any payment due Contractor, or Contractor shall pay the entire cost (or any part thereof) upon demand by the State.

End of Contract Agreement.