ENTERPRISE PROJECT MANAGEMENT OFFICE

QUALITY MANAGEMENT SYSTEM
ISO 9001:2008

STATE CHIEF INFORMATION OFFICER
CHRIS ESTES

DEPUTY STATE CHIEF INFORMATION OFFICER
AARON WIENSHIENK

DEPARTMENT MANAGER
JAMES PARKER

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TRANSITION CLAUSE:

Transition to all components of the ISO 9001:2008 Quality Management System may require General Assembly or interagency approval. In the interim, all employees and participants are required to work within prescribed procedures as they pertain to the performance and quality control of the processes. Processes, documents, forms and records that are outside the document control system will be controlled as transitional documents.
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Introduction.

The State Chief Information Officer (SCIO) has specific authority and responsibility for Information Technology (IT) Projects. SCIO authority and responsibility for IT Projects began in 2004 when the North Carolina General Assembly amended Article 3D of Chapter 147 of the General Statutes to address large IT Projects. The legislation was codified as N.C. General Statutes 147-33.72A – 147-33.72H and incorporated several significant changes. The changes include development of standards and accountability measures for all IT Projects, criteria for project management, and review and approval of IT Project Managers (PM). In 2005 an Enterprise Project Management Office (EPMO) was established and a Project Portfolio Management (PPM) methodology developed to implement the oversight mandate. The approach developed in 2005 essentially leveraged a “one-size fits all” model that over time was determined to be only marginally effective in identifying and controlling IT project cost, schedule, performance and risk.

The SCIO’s mission and vision today is to promote a stronger North Carolina that connects citizens, businesses, education and government. User interaction with the government should be as easy and effective as interacting with businesses using common online interfaces. This Quality Manual and its supporting Quality Management System (QMS) represent a new approach to project, program and portfolio management. It is designed to reform the original PPM methodology developed in 2005 to meet the current and future requirements of the SCIO and the State. The new QMS accomplishes this goal through defined and measurable standard processes, quality objectives and management control measures. The QMS also facilitates increased collaboration and transparency across the enterprise and throughout the project management life-cycle.
The QMS and its supporting processes focus heavily on business outcomes, quality assurance and cost/schedule accountability. Such end-to-end coordination through these areas will allow for aligned processes and practices that guide and manage a project from Initiation through Closeout.

The EPMO will focus on:

- Development and implementation of standards for IT Projects and project management
- Meaningful metrics that improve financial and schedule performance
- Effective planning and cost estimation prior to the commitment of significant state resources
- Streamlining of key managerial reviews and decision points
- Independent review of large or high risk projects
- Application of lessons learned, feedback, and metrics to continually improve the overall process
- Leveraging of modern tools for effective PPM

Purpose and Scope.

The EPMO is committed to overseeing the SCIO’s legislated mandate for all IT Projects and Programs. This means the development and implementation of standard processes, systems and accountability measures that enable qualified PMs to deliver results on time, within budget and as expected. This Quality Manual and its associated QMS help ensure IT Projects are planned, developed and delivered in a consistent, controlled and transparent manner throughout the project life-cycle. The EPMO QMS defines the operational parameters for effectiveness and quality initiatives to ensure continual improvement and customer satisfaction.

The EPMO consists of a Director, Senior PMs and Analysts. The entire staff is committed to the QMS. The organization takes direction from the SCIO, the Deputy SCIO for Statewide Operations and General Statutes. The EPMO represents the Quality Assurance arm for IT project management across the agencies, boards and commissions identified in Table 1 below.

Table 1. State Chief Information Officer Supported North Carolina Agencies

<table>
<thead>
<tr>
<th>AGENCY CODE</th>
<th>AGENCY ACRONYM</th>
<th>AGENCY NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>OSB</td>
<td>GOVERNOR // OFFICE OF STATE BUDGET AND MANAGEMENT // PERSONNEL</td>
</tr>
<tr>
<td>05</td>
<td>SOS</td>
<td>SECRETARY OF STATE</td>
</tr>
</tbody>
</table>
References.

<table>
<thead>
<tr>
<th>DOCUMENT #</th>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC GENERAL STATUTES - CHAPTER 147 ARTICLE 3D</td>
<td>STATE INFORMATION TECHNOLOGY SERVICES</td>
</tr>
<tr>
<td>PPM SYSTEM</td>
<td>PPM Project Management Tool (Permitted Access)</td>
</tr>
<tr>
<td>STATEWIDE IT PROCUREMENT POLICY &amp; PROCEDURES</td>
<td>STATEWIDE IT STRATEGIC SOURCING OFFICE</td>
</tr>
</tbody>
</table>

Terms, Definitions and Exceptions.

<table>
<thead>
<tr>
<th>TERM</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>CUSTOMER</td>
<td>The Governor and State of North Carolina executive leader; the State Chief Information Officer as the Governor’s executive for IT, General Statutes, and the Citizens, Businesses and Government Agencies of North Carolina.</td>
</tr>
<tr>
<td>DECISION POINT</td>
<td>A defined process, activity or event assigned to a project, program or portfolio timeline.</td>
</tr>
<tr>
<td>STAKEHOLDER</td>
<td>An individual, group or organization who may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project.</td>
</tr>
</tbody>
</table>

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Agency Business Owners, Project Managers (PMs), IT Strategic Sourcing, Solution Architecture, Enterprise Security and Risk Management Office (ESRMO) and other key stakeholders in an IT Project’s success. Suppliers are assigned tasks by the EPMO Project Manager Advisor (PMA) to include Corrective Actions and Preventive Actions that enable the effective operational control of IT Project cost/schedule delivery.

<table>
<thead>
<tr>
<th>CLAUSE</th>
<th>EXCEPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>DESIGN AND DEVELOPMENT 7.3</td>
<td>The EPMO provides oversight services focused on project delivery Quality Control and Quality Assurance. The Design and Development of any particular program is beyond the scope of the EPMO. Therefore, the EPMO takes exception to Clause 7.3 in its entirety for its deliverable to its customer as the requirements pertain to product/projects but does rely on the basic concepts as described within the standard.</td>
</tr>
<tr>
<td>PURCHASING 7.4</td>
<td>The EPMO role in purchasing is limited to SCIO Quality Assurance oversight for IT Projects meeting or exceeding the limits of legislative mandates. The EPMO performs this task via a standard work process. Control of project/product suppliers is performed by the Statewide IT Procurement Office. Therefore, the EPMO takes exception to Section 7.4 except as noted in the Quality Manual.</td>
</tr>
<tr>
<td>MONITORING AND MEASUREMENT EQUIPMENT 7.6</td>
<td>Measuring equipment is neither used nor necessary for the products and services delivered to end-use customers or any particular stakeholder. Therefore, the EPMO takes exception to Clause 7.6 as it relates to Measuring Equipment.</td>
</tr>
</tbody>
</table>

The Quality Management System.

The EPMO has developed, implemented and will continually improve this QMS to review, monitor and deliver IT Projects on time and within budget. The QMS incorporates Phases, Decision Points and other supporting processes to measure IT Project delivery and customer satisfaction in accordance with the ISO 9001:2008 Standard. The SCIO’s stated Quality Policy and Quality Objectives support the establishment of mutually beneficial relationships with suppliers by defining the customer’s expected performance standards, measures of effectiveness, and roles and responsibilities of those accountable. In turn, the EPMO will communicate accurately, consistently and responsively to supplier provided work product based on timelines defined within the Decision Point (DP) process.

The EPMO shall:

- Identify and define processes necessary to ensure the QMS drives continual improvement.
- Translate improvements to customers.
- Determine the interrelationships of processes.
- Determine the criteria and methods necessary to correct deficiencies through:
  - Root Cause Analysis and Corrective Action
  - Preventive Action
  - Risk Assessment and Management
  - Management Review, and
  - Internal Audit
- Identify the resources required to ensure availability of technology, information, personnel and infrastructure needed to support provided services.
• Determine the appropriate metrics for services and the QMS to enable successful monitoring.
• Identify weaknesses proactively to ensure a positive influence on project outcomes.

Documentation.

The EPMO’s QMS documentation includes this Quality Manual, its stated Quality Policy and Quality Objectives, and the documented processes, procedures, forms and records required by Statute and the ISO 9001:2008 Standard. The QMS leverages Core process owners for each process identified in Table 2 below.

### Table 2. Core Process Owners and Core Processes

<table>
<thead>
<tr>
<th>CORE OWNER</th>
<th>OWNER/PROCESS ID CODE</th>
<th>CORE PROCESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADMINISTRATION</td>
<td>0100</td>
<td>ADMINISTRATIVE PROCESSES</td>
</tr>
<tr>
<td>HUMAN RESOURCES/RESOURCE ALLOCATION</td>
<td>0200</td>
<td>PERSONNEL, TRAINING, RESOURCE ALLOCATION</td>
</tr>
<tr>
<td>PRODUCT REALIZATION</td>
<td>0300</td>
<td>PRODUCT/SERVICE REALIZATION</td>
</tr>
<tr>
<td>RISK MANAGEMENT</td>
<td>0400</td>
<td>RISK ASSESSMENT, MITIGATION AND REVIEW</td>
</tr>
<tr>
<td>CONTROL OF NONCONFORMING PRODUCT OR</td>
<td>0500</td>
<td>CONTROL OF PROJECTS OUT OF SCOPE</td>
</tr>
<tr>
<td>SERVICE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CORRECTIVE ACTION</td>
<td>0600</td>
<td>CORRECTIVE ACTION</td>
</tr>
<tr>
<td>PREVENTIVE ACTION</td>
<td>0700</td>
<td>PREVENTIVE ACTION</td>
</tr>
<tr>
<td>QUALITY ASSURANCE</td>
<td>0800</td>
<td>QUALITY SYSTEM EFFECTIVENESS</td>
</tr>
<tr>
<td>QUALITY CONTROL</td>
<td>0810</td>
<td>QUALITY CONTROL OF PRODUCTS AND SERVICES</td>
</tr>
<tr>
<td>INTERNAL AUDIT</td>
<td>0820</td>
<td>QUALITY EFFECTIVENESS OPPORTUNITIES</td>
</tr>
</tbody>
</table>

Managers are assigned ownership for each core process with clear expectations and measures for their specific Roles, Responsibilities and Authorities. Roles, Responsibilities and Authorities are defined within the Type “A” level system procedures for each core process. For example, 0100-0100-005-A EPMO GENERAL ROLES, RESPONSIBILITIES AND AUTHORITIES; 0200-0200-005-C TRAINING MANAGEMENT ROLES, RESPONSIBILITIES AND AUTHORITIES; and, 0300-0300-005-A PROJECT MANAGEMENT ROLES, RESPONSIBILITIES AND AUTHORITIES (Product Realization).

The EPMO has detailed the QMS Document Control System within 0100-0800-005-A DOCUMENT CONTROL as required by the ISO Standard. The EPMO has also included all Core Process Owners, stakeholders and affected parties in the review of QMS policy, processes, procedures and work instructions using the 0100-0800-015-B PROCEDURE BALLOT AND APPROVAL process.

Management Responsibility and Commitment.

The SCIO is committed to implementing this QMS and providing the citizens of North Carolina with the best value for their tax dollars invested in IT. The QMS includes a quality policy, measurable quality objectives and clear criteria for

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IT project management, pursuant to state law and legislative intent. The SCIO communicates to all employees of the “One IT” Enterprise the importance of their role in meeting customer expectations, as well as all statutory and regulatory requirements. The SCIO, in accordance with executive and legislative authority, directs an EPMO and is committed to providing the necessary resources to implement, manage and continually improve the QMS.

The SCIO, supported by state executive leadership, General Statutes and legislative intent drives the QMS. Roles, Responsibilities and Authorities are defined to ensure all suppliers, stakeholders and affected personnel clearly understand their involvement. The Management Team, from the SCIO’s leadership team to the individual PMs, drive excellence through their commitment to deliver IT Projects within planned cost and schedule. The EPMO Manager communicates the importance of the QMS and all related requirements by ensuring that all personnel are trained in policy, processes, procedures, work instructions and requirements to achieve these quality objectives.

Customer Focus.

The QMS drives customer and stakeholder satisfaction by delivering IT Projects that meet business expectations within planned cost and schedule. QMS policies, procedures and interactive processes are designed to achieve this end. EPMO procedure 0100-0100-010-A EPMO GENERAL ROLES, RESPONSIBILITIES AND AUTHORITIES authorizes the required organizations and staff to perform in a manner that meets this value stream. The standard work process in 0100-0110005-A STANDARD WORK ROLES, RESPONSIBILITIES AND AUTHORITIES and 0100-0110-005-B STANDARD WORK PROCESS allow for agency differences while identifying the need to continually improve and seek efficiencies.

Quality Policy and Objectives.

Policy. The EPMO employs expert staff and facts-based decision making to support the SCIO’s IT Project oversight and strategic planning processes. The EPMO assesses IT Projects for compliance with all Executive, Statutory and Regulatory requirements, goals and objectives. The EPMO works closely with suppliers to ascertain whether they have the necessary awareness, tools, training and guidelines to effectively deliver projects, programs and portfolios within planned cost and schedule. The EPMO responds to supplier requests and Decision Points with clarity and transparency based on defined timelines. When Quality Objectives are not met the EPMO will investigate to determine why, initiate Corrective Action when necessary, and continually look for opportunities to improve QMS effectiveness.

This Quality Policy focuses the organization on the core Quality Objectives, provides a framework for establishing and reviewing the QMS and Quality Objectives, and is communicated across the organization to achieve full understanding. The EPMO achieves customer satisfaction through effective, measurable, and continually improving IT Project oversight and delivery. The EPMO recognizes that successful IT Projects leverage highly qualified people, effective processes and appropriate technology to drive and continually improve the Quality Management System.

Objectives. IT Projects are planned and executed to deliver expected IT solutions within a defined cost and schedule. Statewide Decision Points will be met within process defined timelines. These metrics translate into the following quality objectives:

1. Deliver IT Projects On Schedule (Schedule Performance Index)
2. Deliver IT Projects Within Budget (Cost Performance Index)

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3. Facilitate statewide reviews and Decision Points based on timelines associated with defined processes; forward recommendations or return decision packages for Corrective Action in accordance with processes as required.

Quality Management System Planning.

As noted in the “Documentation” section above, the EPMO has structured the QMS using the 5 Tier method. The following Definitions apply.

TIER 1 – QMS – OVERALL BUSINESS DRIVER. The Quality Manual provides overall guidance and direction for defined and controlled QMS processes.

TIER 2 – LEVEL 2 – TYPE “A” SYSTEMS PROCEDURES. Describe the Roles, Responsibilities and Authorities for each core process.

TIER 3 – LEVEL 3 – TYPE “B” OPERATIONS PROCEDURES. Describe the methods required for process implementation, as well as their interrelationships across the core processes.

TIER 4 – LEVEL 4 – TYPE “C” WORK INSTRUCTIONS. Describe the operating practices and controls for each process.

TIER 5 – LEVEL 5 – TYPE “D” FORMS, LOG FILES AND RECORDS. Forms and Records provide key system outputs to include data, records, proof of conformance, and evidence of verification.

Roles, Responsibilities and Authorities.

All employees are empowered to facilitate QMS continual improvement. Per Statute, the SCIO owns and directs the EPMO. Refer to the breakdown structure of the QMS Document Control process, which outlines the core process interrelationships as they relate to defined Roles, Responsibilities and Authorities. Specifically, 0100-0800-005-A DOCUMENT CONTROL ROLES, RESPONSIBILITIES AND AUTHORITIES; 0100-0800-005-B DOCUMENT CONTROL process; and, 0100-0800-015-B PROCEDURE BALLOT AND APPROVAL process.
Management Reviews and Sustainment.

Management Reviews are conducted regularly. When issues are identified the EPMO initiates Corrective Action and ensures QMS improvement. Issues can be addressed by Preventive Action and Corrective Action, or as identified by Risks and Risk Mitigation plans, to ensure the QMS remains on track, continually improves and increases the effectiveness of all processes. Records are maintained in accordance with 0100-0100-005-B MANAGEMENT REVIEW AND DELIVERABLES and 0100-0800-010-B FORMS AND RECORDS CONTROL.

Resource Management.

EPMO services rely on Business Owners, PMs and peer organizations (Procurement, Solution Architecture, Security, etc.) who act as suppliers. PMs perform a primary role in IT Project success and EPMO processes focus on their qualitative knowledge, skills and abilities to achieve effectiveness. Organizational processes and controls maintain records of their competencies, experiences and educational background based on past performance with the state and other organizations. When deficiencies are identified the EPMO provides personnel recommendations, training and Corrective Action. This helps ensure necessary leadership resources are allocated to deliver projects successfully. Refer to 02000200-005-B TRAINING MANAGEMENT and 0300-0310-025-C PROJECT MANAGER ASSESSMENT.

Product/Service Realization.

The EPMO's principal product is the oversight and delivery of IT Projects within planned cost and schedule. As a result, the EPMO takes exception to ISO 9001:2008 Standard Clause 7.3 - Design and Development. The EPMO works to ensure PMs plan, execute and deliver IT Projects based on customer requirements and expectations. When appropriate, the EPMO will provide Design and Development requirements as a guideline for suppliers to follow. With this in mind, the EPMO has segmented product/service realization into five phases for all IT Projects and Programs. The phases are:

1. Initiation
2. Planning and Design
3. Execution and Build
4. Implementation
5. Closeout

Risk Identification, Mitigation and Management.

The EPMO reviews and monitors each project, program and portfolio throughout each service realization phase based on scope, cost, schedule and risk. A 0300-0310-020-C PROJECT RISK ASSESSMENT is completed for each IT Project. The assessment and mitigation plan are reviewed and reassessed as the project matures throughout the life-cycle and as warranted by designated DPs. EPMO QMS processes enable IT Projects to stay on course by taking into consideration that each project is unique. Corrective Actions based on effective Root Cause Analysis are taken when projects deviate from plan. Lessons Learned are captured and incorporated as appropriate into future efforts to prevent recurrence.
The EPMO provides guidance, expertise and review throughout the product realization process as noted above and as defined within process. Suppliers are required to incorporate the proper inputs, account for the requisite resources, and effectively manage cost and schedule while achieving the required expectations and benefits. Based on staff knowledge, skills, abilities, experience and lessons learned the EPMO works to mitigate the risk of not meeting Quality Objectives.

Process records and project specific deliverables within the scope of this QMS are managed and maintained within the SCIO's on-line Project Portfolio Management (PPM) system (Microsoft Project Online). Each IT Project resides independently within the PPM system and subsequently represents its own Quality Plan with unique project requirements and work instructions assigned as required.

Purchasing.

Purchasing processes are controlled outside the EPMO organization. They are legislatively driven and managed through the Statewide IT Strategic Sourcing Office. The EPMO’s role in the process is to determine the applicability of the QMS and Statute. The EPMO does maintain oversight control of purchases made internally for direct service provision. These are primarily services contracted for a specific task. For internal purchases, the EPMO monitors performance based on a review of the deliverables, and authorizes payment as defined in the state controlled bid and procurement process. Records are maintained via the Accounts Payable structure with authorizations for same.

Monitoring, Measuring and Improving.

The EPMO’s Internal Audit Process is conducted in accordance with 0820-0820-005-B INTERNAL AUDIT. Per statute the EPMO uses second party audits as directed by the SCIO office. EPMO processes are designed with consideration for measuring effectiveness where appropriate. Target goals are established by process and executed to produce and record appropriate metrics. Metrics are designed to manage conformity to defined requirements based on the QMS, the customer or statute/regulation. Process effectiveness is measured to control the QMS and meet Quality Objectives.

Customer satisfaction is primarily monitored and measured through online surveys. The EPMO additionally collects and manages customer feedback through formal meetings (meeting minutes) and informal communication. All information is used to improve QMS processes, reduce rework and drive training initiatives.

The EPMO continually reviews and monitors project (product) conformity through the project realization processes. The 0800-0800-005-B QUALITY ASSURANCE, 0810-0810-005-B QUALITY CONTROL and 0500-0500-005-B CONTROL OF NONCONFORMING PRODUCT OR PROCESS drive increased oversight and conformity when efforts are identified as slipping from established target timelines, budget and scope.

Control of Non-Conforming Product/Service.

The EPMO “product” is the Quality Assurance and Quality Control of IT Projects. Control Non-Conforming “Product/Service” is achieved through measured oversight of Quality Objectives and a proactive approach to potential defects and deficiencies. Non-conformance is addressed through a thorough Root Cause Analysis followed by
prescriptive Corrective Action. In most cases, IT Projects are not stopped due to an identified defect. However, as defined within 0500-0500-005-A CONTROL OF NON-CONFORMING PRODUCT OR PROCESS ROLES, RESPONSIBILITIES AND AUTHORITIES; 0500-0500-005-B CONTROL OF NON-CONFORMING PRODUCT OR PROCESS; and, in conjunction with Statutes, the SCIO retains the authority to stop or suspend an IT Project at any time.

**Corrective Action.**

The Corrective Action process encourages Business Owners and PMs to perform up-front planning and due diligence. It also provides a mechanism to insert “course corrections” in IT Projects that deviate too far from plan. The following inter-related procedures specifically apply: 0600-0600-005-A CORRECTIVE ACTION ROLES, RESPONSIBILITIES AND AUTHORITIES; 0600-0600-005-B CORRECTIVE ACTION; 0500-0500-005-A CONTROL OF NON-CONFORMING PRODUCT OR PROCESS ROLES, RESPONSIBILITIES AND AUTHORITIES; and, 0500-0500-005-B CONTROL OF NON-CONFORMING PRODUCT OR PROCESS.

**Preventive Action.**

Preventive action activities focus on customer satisfaction, QMS improvements and enhancements, employee safety and/or satisfaction, and occur as a result of day-to-day observations. The EPMO business model leverages a highly skilled and experienced staff who insert Preventive Action measures as needed across all processes. The 0700-0700005-B PREVENTIVE ACTION process is particularly evident within the 0400-0400-005-B RISK IDENTIFICATION AND MITIGATION PROCESS and 0300-0400 series project realization documents.

**Internal Audit System.**

The 0820-0820-005-B INTERNAL AUDIT process and 0820-0820-005-A INTERNAL AUDIT ROLES, RESPONSIBILITIES AND AUTHORITIES procedure help drive continual improvement and ensure that the QMS meets stated Quality Objectives, ISO Standards and all statutory/regulatory requirements. The 0820-0820-005-D ISO QMS AUDIT TOOL (internal) leverages Turtle Diagrams and Process Effectiveness Assessment Reports to facilitate measuring process effectiveness. Additional tools may be identified as required to address the unique needs of certain IT Projects. Regardless of the method employed, the Internal Audit System complements the project realization processes through continual review of stated Quality Objectives and the identification and management of risk. The 0200-0820 series training processes ensure Internal Auditors are properly trained in the QMS and its evaluation.

**Data Analysis.**

All processes are designed in concert with established Quality Assurance and Quality Control measures to support the collection of data required to determine specific areas for improvement. This data includes internal and external Customer Feedback, Corrective Action, Risk, Preventive Action, the PPM system and other tools and methods. The EPMO uses these capabilities to capture metrics, conduct analysis, and then implement process improvement or corrective action as required.