

STATEWIDE POLICY

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Division Enterprise Information Services (State CIO)	REFERENCE ORS: 276A.223, 174.112, 276A.200, 276A.206, 276A.203, 279A.010, 279B.040, 279B.110, 352.002	
Policy Owner Enterprise Shared Services	Procedure: 107-004-030 PR	
SUBJECT Independent Quality Management Services for Information Technology	APPROVED SIGNATURE <i>State CIO SIGNATURE</i> ON FILE WITH DBS POLICY COORDINATOR	

PURPOSE

The purpose of this statewide policy (Policy) is to provide Covered Organizations with the information and direction necessary to satisfy:

- (1) State CIO requirements regarding the delivery of Independent Quality Management Services that enable Independent Verification and Validation (IV&V) for State IT Initiatives; and
- (2) Legislative direction on quality management for state agency IT Initiatives.

APPLICABILITY

Information Technology (IT) Initiatives that exceed \$5 million or meet other criteria or standards that the State CIO or the DAS Director specifies by rule or policy. The Policy applies to all agencies within the Executive Department as defined in ORS 174.112, and includes any board, commission, department, division, or office within the meaning of the cited authority, and other entities within the Executive Department of state government, except the:

- (1) Secretary of State
- (2) State Treasurer
- (3) Oregon State Lottery; and
- (4) State Board of Higher Education or any public university listed in ORS 352.002.

EXHIBITS

The exhibits below are available at the following link:

https://www.oregon.gov/das/Policies/107-004-030_Exhibits.pdf

- Exhibit A – Excerpts from ORS 276A.223 (“independent QA Act”)
- Exhibit B – Independent QA Statement of Work
- Exhibit C – Stage Gate Review Process
- Exhibit D – Quality Assurance Rating Criteria
- Exhibit E – Quality Assurance Reporting Templates
- Exhibit F – Quality Standards

DEFINITIONS

When capitalized, the following terms have their listed meanings; otherwise, they are used in their generic sense.

“Agency” means a State Contracting Agency.

“Covered Organization” means an organization that is required to comply with the Policy by statute or administrative rule, or an organization that volunteers to comply in order to support the underlying legislative purpose to ensure successful investment of state resources in IT Initiatives. To the extent the Policy seeks to impose provisions of the Independent QA act as they relate to Preliminary Quality Assurance Services and Quality Management Services for IT Initiatives, excepted organizations identified above and Public Corporations should voluntarily include themselves as Covered Organizations under this Policy.

“DAS” means the Department of Administrative Services.

“EIS” means the office of Enterprise Information Services, previously known as the Office of the State CIO.

“Independence” or **“Independent”** means delivery of services by a third party free from real or perceived conflict with the interests of the Covered Organization and its contractors involved in project design, development, implementation, deployment and operational activity. Moreover, the Policy adopts the following specific measure of Independence: *IV&V is the set of verification and validation activities performed by an entity not under the managerial or technical control of the Covered Organization or any of its other contractors. **Managerial independence** means departmental and hierarchical separation from the design, development, implementation, deployment, operational and program, and Project Management organizations; and **technical independence** means no past, present or future involvement in, or reasonably related to, any project efforts around design, development, implementation, deployment, operations and program, and Project Management.* Documentation of this Independence shall be maintained in accordance with the requirements of statewide contracts of the Independent QA Program, which may authorize EIS to request periodic reaffirmation of such attestation.

“Independent QA Act” means ORS 276A.223.

“Independent QA Program” means the program that uses the group of pre-qualified IT Quality Management Services providers under statewide contracts for delivery of diverse, Independent Quality Management Services. DAS Procurement Services and EIS cooperatively administer the program. Each Independent QA Program contractor has executed a master agreement with the State that includes negotiated provisions, such as standard contract terms and conditions, established hourly rate cards, and the Independent QA Program enterprise statement of work (SOW) that identifies, defines and describes the five Quality Management Services task areas that comprise the State’s required IV&V scope: (1) Independent Quality Management Planning; (2) Independent Quality Control; (3) Independent Quality Assurance; (4) Independent Testing; and (5) Independent Risk Assessment and Management.

“Independent Verification and Validation” or **“IV&V”** may be used interchangeably, and these terms have the meaning set out in the latest edition of ISO 12207. “Verification” relates to evaluation that establishes the compliance of project work products with approved business requirements, technical requirements, architecture, and design. “Validation” relates to determining that project work products fulfill intended business needs. “Independent” has the meaning set out above in connection with the defined term, **“Independence”** or **“Independent”**. IV&V represents an important objective of Quality Management Services. See Exhibit B, the Independent QA Program SOW, which sets out the State’s required IV&V scope that must be satisfied through the performance of an Independent contractor that participates in the Independent QA Program.

“Information Technology Initiative” or **“IT Initiative”** has the meaning set out in the Independent QA Act (Exhibit A). An Information Technology Initiative is composed of a project or project portfolio and is subject to DAS and EIS review and oversight responsibilities as discussed in the Policy and other statewide IT policies.

“**JLCIMT**” means Joint Legislative Committee on Information Management and Technology.

“**Mission Critical**” means any computer process that supports a Covered Organization’s business operations and that cannot fail to perform in compliance with applicable business requirements and service levels for operational availability, capacity, and functionality.

“**PMBOK**” means the Project Management Institute’s *Project Management Body of Knowledge* Guide.

“**Preliminary Quality Assurance Services**” has the meaning set out in the Independent QA Act (Exhibit A). For purposes of the Policy, the term refers to the Independent delivery of Quality Management Services during the initiation, planning and procurement phase of a Covered Organization’s IT Initiative. Although treated as discretionary under the Independent QA Act, a Covered Organization’s acquisition of such services may be required by direction of the Legislature, Legislative Fiscal Office (LFO), or EIS.

“**Project**” means a temporary endeavor undertaken to create a unique product or service, as documented through PMBOK-based project management artifacts using practices and processes that are consistent with PMBOK guidance.

“**Project Cost**” means all costs and expenditures for a Covered Organization’s internal and outsourced personnel and resources that are specifically attributable to the Project or Portfolio of Projects within the Covered Organization’s chart of accounts. Project Costs must be managed and reported throughout the Project’s development and delivery process. In accordance with State procurement law and regulation, a Covered Organization shall not artificially divide or fragment an IT Initiative in order to establish Projects and Project Costs that avoid the Policy’s application.

“**Project Management**” means the application of PMBOK-recommended knowledge, skills, tools, and techniques applied as necessary and appropriate to achieve a Project’s objectives (as documented through the full project lifecycle in PMBOK-based project management artifacts).

“**Project Portfolio**” means a series of Projects related to a Covered Organization’s IT Initiatives.

“**Quality Management**” means the practices and processes used to ensure that a Project or Project Portfolio will satisfy identified requirements. It includes all activities of the overall management function that determine the quality policy, objectives, and responsibilities, and their implementation in accordance with PMBOK, ISO 12207, and applicable IT industry best practices. These practices and processes comprise general project verification and validation, and at a minimum include:

- **Quality Planning**, which refers to identifying which quality standards are relevant to a Project and determining how they will be satisfied by Project activities.
- **Quality Assurance**, which refers to evaluating overall Project performance on a regular basis to provide confidence that the Project continues to satisfy relevant quality standards.
- **Quality Control and Testing**, which refers to monitoring specific Project results to determine if they comply with relevant quality standards and identifying ways to eliminate causes of unsatisfactory performance.
- **Risk Management**, which includes **risk identification** (*determining which risks might affect the Project and documenting their characteristics*), **risk assessment** (*the thorough assessment of the probability and the impact for the occurrence of risks*), **risk avoidance**, **mitigation** or **transfer** (*seeking ways to remove or reduce the probability and impact of an identified risk below an acceptable threshold in compliance with IT statewide policies and the Independent QA Program*), and other related activities as defined by the PMBOK for the effective management of project risk.

Within an IT Initiative, responsibilities for verification & validation are typically shared among all participating staff of the Covered Organization and its contractors. However, only Quality Management Services provided by an Independent contractor participating in the Independent QA Program or with explicit consent of EIS may be regarded as IV&V.

“Quality Management Services” has the meaning set out in the Independent QA Act. Quality Management Services are delivered by Independent QA Contractors and may encompass Preliminary Quality Assurance Services and quality & risk management services during all phases of IT Initiatives (e.g., initiation, planning, procurement, execution, and closing). EIS’s preference is for a single Independent QA Contractor to provide all Quality Management Services for a single Project and for all related Projects in a single designated Project Portfolio. Quality Management Services for Project Portfolios should not exceed two (2) years in duration and are subject to EIS review and consent.

“Quality Standards” means both Project “process” and “product” quality standards. “Process” quality standards shall cover organizational influences, management support, decision drivers, Project Management, schedule, resourcing, experience, and others. “Product” quality standards shall cover product content, design, development, deployment, environment, technology, security, maintainability, and others.

“Stage Gate Review Process” means the evaluation process by which a Project is authorized to progress from one part of the Project life cycle to the next. The process is a collaborative practice in which all participants play an important role in assessing a Project’s overall health and quality of execution; and the intention of the process is to increase the likelihood of success, reduce risk, and achieve efficient and effective allocation of resources (Exhibit C).

“State” means the state of Oregon.

“State CIO” means the Chief Information Officer for the state of Oregon.

“State Contracting Agency” has the meaning set out in the Independent QA Act (Exhibit A).

GENERAL INFORMATION

1. A Covered Organization that plans to implement an IT Initiative shall obtain Preliminary Quality Assurance and all appropriate Quality Management Services from a qualified, Independent contractor if:
 - a. Quality management services are required by legislative action or executive mandate; or
 - b. The IT Initiative is estimated to exceed \$5 million in total cost; or
 - c. At least three of the following five criteria are met:
 - i. The Project Cost is estimated to be greater than \$1 million;
 - ii. The Project schedule exceeds one year in duration;
 - iii. The IT or telecommunications system, application or infrastructure affected by the IT Initiative is considered Mission Critical by the Covered Organization or the State CIO;
 - iv. The Project scope includes changes or enhancements to systems, applications or infrastructure managed or maintained or intended for use by more than one Covered Organization;
 - v. Other criteria deemed relevant by EIS.

In accordance with State procurement law and regulation, a Covered Organization may not artificially divide or fragment an initiative to avoid application of this section.

2. Covered Organizations planning an IT Initiative must first review and ensure their compliance with DAS Statewide Policy: #107-004-130, *Information Technology Review/Approval*, to ensure that the planned IT Initiative is engaged in the IT project review and approval process at the same time that the State CIO and the Covered Organization determine the need for, and level of, required Quality Management Services for the Project(s).
3. If a Covered Organization IT Initiative requires Quality Management Services, the Covered Organization will work with EIS to determine the appropriate scope of and timing for such services. All Quality Management Services contracts for an IT Initiative shall include provisions requiring the prior consent of EIS for a Covered Organization’s authorization and acceptance of Quality Management

Service deliverables; unless EIS delegates authorization and acceptance of these deliverables to the Covered Organization's management.

4. The IT Initiative's readiness to proceed from one Stage Gate to another and the required level of any Quality Management Services will, in part, be based on the Covered Organization's submission of the foundational documents identified within the Stage Gate Review Process (Exhibit C) and any additional documents that EIS deems necessary based on the unique conditions of the IT Initiative, and Quality Management Services deliverables.
5. Quality Management Services must be delivered by Independent contractors that satisfy the Policy's declared and defined measure of Independence. During the entire duration of each Quality Management Services engagement, the contracting Covered Organization must not authorize or accept "other" products and services from the engaged Quality Management Services contractors and their subcontractors without prior EIS consent.
6. Covered Organizations must ensure that all Quality Management Services contractors are familiar with the Policy, perform their work in alignment with the Independent QA Program Statement of Work and the Stage Gate Review Process; and at a minimum utilize as input the Policy-prescribed Quality Assurance Rating Criteria, report templates and formats (Exhibits B, C, D, E and F). At the State CIO's discretion, EIS may coordinate with and accept input from Covered Organizations engaged in implementing IT Initiatives prior to making reports and presentations concerning IT Initiatives to the Joint Legislative Committee on Information Management and Technology (JLCIMT) or other legislative committees or subcommittees as required.
7. Revisions to the Independent QA Program Statement of Work (SOW) for a particular IT Initiative must be approved by EIS before contract or related contract amendment execution. Details regarding work activities and methodology must be documented in a quality management plan (QMP) deliverable, to be informed by the findings of an initial risk assessment report authorized and accepted by the Covered Organization with the prior consent of EIS. This QMP must not be authorized for development or accepted for use without the prior consent of the EIS.
8. As part of the Quality Control (QC), Covered Organizations must ensure that their engaged Independent Quality Management Services contractors review Project artifacts identified within the applicable SOW, the QMP, and as otherwise required by EIS during an IT Initiative's lifecycle. These Project artifacts shall include, but not be limited to:
 - a. PMBOK-based project plans (especially work breakdown structure or work plan, schedule, budget, and resource loading),
 - b. functional (business) requirements,
 - c. non-functional (technical) requirements,
 - d. architecture (in the context of relevant interfaces, services, technology platforms, systems and technical environments that already exist and will need to be installed or implemented),
 - e. designs, and
 - f. testing results.

QC review of testing results must encompass testing results, as they become available from all parties in the IT Initiative responsible for Quality Management, and associated testing activities. In general, these parties include the implementation contractors (especially with respect to unit testing and system integration testing), other Covered Organization contractors, Covered Organization and other state staff (especially with respect to user acceptance testing), and Independent contractors (especially with respect to Independent testing).

9. For IT Initiatives that use an iterative or agile system development life cycle, EIS may direct that QC reviews be conducted for each iteration (sprint) or some specific groupings of iterations (sprints). The

iterative or agile system development work products must be documented in a manner that is traceable to PMBOK-recommended project management and control activity. Artifacts such as those identified under the Requirement 8 must be in a format that enables efficient, timely Independent review.

10. For systems deemed Mission Critical to State business operations, EIS may require Independent testing and may direct the use of Independent testing data as the main criteria, or among the main criteria, for determining readiness for system launch and placement of system functions into production use. If Independent testing is required by EIS, details of the Independent testing activities must be documented in a master test plan (MTP) deliverable. The MTP may be authorized for development and accepted for use only after prior consent from EIS. Covered Organizations may obtain EIS consent for authorization to develop and accept the MTP after obtaining EIS consent for acceptance of the QMP. Unless EIS indicates otherwise, testing results must be reported in accordance with applicable IT industry standards to ensure efficient, timely Independent review.
11. Covered Organizations should conduct Independent risk assessments for their Project to objectively quantify strategic, project management, technology, change management, operational, acquisition and other risks and mitigation strategies to manage them. The review process described by this Policy will help to identify and assess all risks throughout the full cycle of the Project; thereby ensuring that appropriate actions are continually taken.
12. Per Exhibit A, Covered Organization's contract administrators for Quality Management Services shall provide copies of relevant reports to:
 - a. the State CIO;
 - b. the Director of DAS; and
 - c. the Director of the Covered Organization or its appropriate governing body.

Consistent with their mutual obligation as described at Step 5 in this Policy's companion State Procedure, the State CIO and the Covered Organization may designate other entities to whom copies of relevant reports should be provided for the specific IT Initiative. These entities must be identified in the Covered Organization's quality management plan (QMP) for the Project.