✔ **EVIDENCE PRODUCT CHECKLIST**

For Standard ISO/IEC 90003:2014
Software engineering: Guidelines for the application of
ISO 9001:2008 to computer software

A checklist prepared by analyzing each clause of 90003:2014

CHECKLIST

- ✓ Policies and Procedures
- ✓ Plans
- ✓ Records
- ✓ Documents
- ✓ Audits and Reviews

SEPT Product 81
ISBN 978-0-9859732-2-3
Author: Andy Coster, CCP

Evidence Product Checklist
for Standard ISO/IEC 90003:2014
Software engineering: Guidelines for the application of ISO 9001:2008 to computer software

Author: Andy Coster, CCP

Evidence Product Checklist for
Standard ISO/IEC 90003:2014

Introduction

The process of defining what is necessary for compliance with a quality management process standard such as "ISO/IEC 90003:2014" is often confusing and laborious because the directions contained in the standards are unclear or ambiguous. To aid in determining what is actually "required" by the document in the way of physical evidence of compliance, the experts at SEPT have produced this checklist. This checklist is constructed around a classification scheme of physical evidence comprised of policies, procedures, plans, records, documents, audits, and reviews. There must be an accompanying record of some type when an audit or review has been accomplished. This record would define the findings of the review or audit and any corrective action to be taken. For the sake of brevity this checklist does not call out a separate record for each review or audit. All procedures should be reviewed but the checklist does not call out a review for each procedure unless the standard calls out the procedure review. In this checklist, "manuals, reports, scripts and specifications" are included in the document category. When the subject standard references another standard for physical evidence, the checklist does not call out the full requirements of the referenced standard, only the expected physical evidence that should be available.

The author has carefully reviewed the document "ISO/IEC 90003:2014 Software Engineering: Guidelines for the application of ISO 9001:2008 to computer software " and defined the physical evidence required based upon this classification scheme. SEPT has conducted a second review of the complete list to ensure that the documents' producers did not leave out a physical piece of evidence that a "reasonable person" would expect to find. It could certainly be argued that if the document did not call it out then it is not required; however if the standard was used by an organization to improve its process, then it would make sense to recognize missing documents. Therefore, there are documents specified in this checklist that are implied by the standard or in common use in software engineering, though not specifically called out in the document, and they are designated by an asterisk (*) throughout this checklist. If a document is called out more than one time, only the first reference is stipulated. Additionally, there are many references to ISO/IEC 12207 in ISO/IEC 90003:2014 so ISO/IEC 12207 required items have been included and are denoted by a (#).

There are occasional situations in which a procedure or document is not necessarily separate and could be contained within another document. For example, the "Design and Development Verification Plan" could be a part of the "Design and Development Plan". The author has called out these individual items separately to ensure that the organization does not overlook any facet of physical evidence. If the organization does not require a separate document, and an item can be a subset of another document or record, then this fact should be denoted in the detail section of the checklist for that item. This should be recorded in the form of a statement reflecting that the information for this document may be found in section XX of Document XYZ. If the organizational requirements do not call for this physical evidence for a particular project, this should also be denoted with a statement reflecting that this physical evidence is not required and why. The reasons for the evidence not being required should be clearly presented in this statement. Further details on this step are provided in the Detail Steps section of the introduction. The size of these documents could vary from paragraphs to volumes depending upon the size and complexity of the project or business requirements.

General Principles of the ISO/IEC 90003:2014 Software engineering – Guidelines for the application of ISO 9001:2008 to computer software - Requirements Checklist
This checklist was prepared by analyzing each clause of this document for the key words that signify a:

- Policy
- Procedure
- Plan
- Record
- Document (Including Manuals, Reports, Scripts and Specifications)
- Audit
- Review

This checklist specifies evidence that is unique. After reviewing the completed document, the second review was conducted from a common sense "reasonable man" approach:

- Required items are denoted by an <u>underline</u> to aid use of the checklist.
- Documents cited in ISO/IEC 12207 are denoted with a (# - ISO/IEC 12207 item)
- If a document or other piece of evidence appeared to be required, but was not called out in the document, then it is added with an asterisk (* - Suggested) after its notation in the checklist.
- Some items in common use in software engineering were considered missing in the standard. These have also been included and are denoted also with an asterisk (* - Suggested).

Note: These notations are listed in the footnotes for each section.

The information was transferred into checklist tables, based on the type of product or evidence. Because software forms part of a "system", some system documents are identified that are necessary to define inputs to software development or are associated with acceptance of software against defined requirements. These are not specifically cited in the standard but are included for completeness. Related procedures and plans to develop these system level items are omitted in the checklist.

Using the Checklist
When a company is planning to use "ISO/IEC 90003:2014" (and by implication ISO 9001:2008) standard, the company should review the evidence checklist. If the company's present process does not address an ISO/IEC 90003:2014 (or ISO 9001:2008) standard product, then this question should be asked: Is the evidence product required for the type of business of the company? If in the view of the company the evidence is not required, the rationale should be documented and inserted in the checklist and quality manual. This rationale should pass "*the reasonable person rule*." If the evidence is required, plans should be prepared to address the missing item(s).

Detail Steps
An organization should compare the proposed output of their organization against the checklist. In doing this, they will find one of five conditions that exist for each item listed in the checklist. The following five conditions and the actions required by these conditions are listed in the table below.

Condition	Action Required
1. The title of the documented evidence specified by the checklist (document, plan, etc) *agrees* with the title of the evidence being planned by the organization.	Record in checklist that the organization is compliant.
2. The title of the documented evidence specified by the checklist (document, etc) *disagrees* with the title of the evidence planned by the organization but the content is the same.	Record in the checklist the evidence title the organization uses and record that the organization is compliant, and the evidence is the same although the title is different.
3. The title of the documented evidence specified by the checklist (document, etc) is *combined* with another piece of evidence.	Record in the checklist the title of the evidence (document, etc) in which this information is contained.
4. The title of the documented evidence specified by the checklist (document, etc) *is not planned* by the organization because it is not required.	Record in the checklist that the evidence is not required and the rationale for this decision.
5. The title of the documented evidence called out by the checklis*t* (document, etc*) is not planned* by the organization and *should be* planned by it.	Record in the checklist when this evidence will be planned and reference a plan for accomplishing the task.

Components of the Checklist

This checklist is composed of 9 sections:

- Section 1. Introduction
- Section 2. Checklist of all required and suggested "ISO/IEC 90003:2014" evidence products, together with ISO/IEC 12207 required items.
- Sections 3-7. Individual checklists for each evidence type.
- Section 8. Names used in ISO/IEC 12207 standard that are different in ISO/IEC 90003 checklist
- Section 9. "About the Author"

Changes in this Version

This checklist for "ISO/IEC 90003 has been updated to reflect the new standard - "ISO/IEC 90003:2014. This update has caused the old checklist to change about 15% and increase in size from 110 pages to 127 pages. At a macro level the changes are:

1. Detailed revisions made to ISO/IEC 90003:2014
2. (26 new items.) In section 7.1.1 Software Life Cycle and 7.1.2 Quality Planning
3. Update to incorporate ISO9001:2008 revisions
   a. Although changes in ISO9001:2008 were small with no new required items, they impacted some section title changes and change to some item names
4. Changes introduced to reflect the latest naming convention in ISO9001:2008 and ISO/IEC 12207:2008

Product Support

All reasonable questions concerning this checklist or its use will be addressed free of charge for 60 days from time of purchase, up to a maximum of 4 hours of consultation time.

Warranties and Liability

Software Engineering Process Technology (SEPT) makes no warranties implied or stated with respect to this checklist, and it is provided on an "*as is*" basis. SEPT will have no liability for any indirect, incidental, special or consequential damages or any loss of revenue or profits arising under, or with respect to the use of this document.

ISO/IEC 90003:2014 Clause Number and Name	**Policies** and Procedures	Plans	Records	Documents	**Audits** and Reviews
4 **Quality management system**					
4.1 **General requirements**	• Outsourcing Plan Procedure * • Outsourcing Procedure * • Quality Management System Document Procedure* • Quality Management System Improvement Plan Procedure* • Quality Management System Processes Used Document Procedure* • Software Development, Operation and Maintenance Processes Used Document Procedure* • Software Life Cycle Model Document Procedure#	• Outsourcing Plan* • Quality Management System Improvement Plan*		• <u>Quality Management System Document</u> • <u>Quality Management System Processes Used Document</u> • <u>Software Development, Operation and Maintenance Processes Used Document#</u> • <u>Software Life Cycle Model Document#</u>	• Outsourcing Plan Review* • Outsourcing Review* • <u>Quality Management System Document Review</u> • Quality Management System Improvement Plan Review* • <u>Quality Management System Processes Used Document Review</u> • Software Development, Operation and Maintenance Processes Used Document Review* • Software Life Cycle Model Document Review*
4.2 **Documentation requirements**					

_ (Underline) ISO/IEC 90003 Required Item, # ISO/IEC 12207 Required Item, * Suggested Item

ISO/IEC 90003:2014 Clause Number and Name	**Policies** and Procedures	Plans	Records	Documents	**Audits** and Reviews
4.2.1 General	• Documentation Plan Procedure* • Documentation Procedure# • List of Control Documents Procedure* • List of Documented Procedures and Templates* • List of Operation Documents Procedure* • List of Planning Documents Procedure* • Quality Manual Document Procedure* • Quality Objective Document Procedure* • **Quality Policy** • **Software Quality Policy*** • Technical Standards Used Document Procedure*	• Documentation Plan#	• <u>Process Planning, Operation and Control Records</u> • <u>Quality Management System Records (All)</u>#	• List of Control Documents* • List of Operation Documents* • List of Planning Documents* • <u>Quality Manual Document</u> • <u>Quality Objective Document</u> • Technical Standards Used Document* • Tools, Techniques, Technologies and Methods Used Document#	• Documentation Plan Review* • List of Control Documents Review* • List of Operation Documents Review* • List of Planning Documents Review* • <u>Quality Manual Document Review</u> • <u>Quality Objective Document Review</u> • <u>Quality Policy Review</u> • Software Quality Policy Review* • Technical Standards Used Document Review* • Tools, Techniques, Technologies and Methods Used Document Review*

_ (Underline) ISO/IEC 90003 Required Item, # ISO/IEC 12207 Required Item, * Suggested Item

ISO/IEC 90003:2014 Clause Number and Name	Policies and Procedures	Plans	Records	Documents	Audits and Reviews
4.2.1 General (Cont.1)	• Tools, Techniques, Technologies and Methods Used Document Procedure#				
4.2.2 Quality manual	• Process Interaction Description Document Procedure*			• Process Interaction Description Document	• Process Interaction Description Document Review
4.2.3 Control of documents	• Document Control Procedure • External Documents Document Procedure*			• External Documents Document	• External Documents Document Review*

_ (Underline) ISO/IEC 90003 Required Item, # ISO/IEC 12207 Required Item, * Suggested Item

ISO/IEC 90003:2014 Clause Number and Name	Policies and Procedures	Plans	Records	Documents	Audits and Reviews
4.2.4 Control of records	• Record Management Plan Procedure* • Record Management Procedure • Virus Checking Plan Procedure*	• Record Management Plan* • Virus Checking Plan*	• Assessment Report Records# • Change Request Records# • Design and Development Review Records# • Estimating Records* • Management Problem Report Records# • Marked Up Document Records# • Meeting Minutes Records* • Problem Report Records# • Project Audit Records# • Quality Management System Management Review Records#		• Record Management Plan Review* • Record Management Review* • Virus Checking Plan Review*

_ (Underline) ISO/IEC 90003 Required Item, # ISO/IEC 12207 Required Item, * Suggested Item

ISO/IEC 90003:2014 Clause Number and Name	**Policies** and Procedures	Plans	Records	Documents	**Audits** and Reviews
4.2.4 Control of records (Cont. 1)			• Software License Agreement Records* • Software Release Records* • Test Records# • Tools, Methodology, and Supplier; Selection and Qualification Records*		
5 Management responsibility					
5.1 Management commitment stop	• Top Management Responsibility and Authority Document Procedure*			• Top Management Responsibility and Authority Document*	• Top Management Responsibility and Authority Document Review*
5.2 Customer focus	• Customer Interaction Plan Procedure*	• Customer Interaction Plan*			• Customer Interaction Plan Review*
5.3 Quality policy					
5.4 Planning					
5.4.1 Quality objectives	• Quality Objective for Software System Documents Procedure*			• Quality Objective for Software System Documents*	• Quality Objective for Software System Documents Review*

_ (Underline) ISO/IEC 90003 Required Item, # ISO/IEC 12207 Required Item, * Suggested Item