

ISO/IEC/IEEE 90003:2018 (E)

Software engineering — Guidelines for the application of ISO 9001:2015 to computer software

Contents

| | |
|---------|----------------------------------------------------------------|
| | Foreword |
| | Introduction |
| 1 | Scope |
| 2 | Normative references |
| 3 | Terms and definitions |
| 4 | Context of the organization |
| 4.1 | Understanding the organization and its context |
| 4.2 | Understanding the needs and expectations of interested parties |
| 4.3 | Determining the scope of the quality management system |
| 4.4 | Quality management system and its processes |
| 4.4.1 | Quality management system processes |
| 4.4.1.1 | Process identification and application |
| 4.4.1.2 | Process sequence and interaction |
| 4.4.1.3 | Evidence of effective operation |
| 4.4.2 | Information Management |
| 5 | Leadership |
| 5.1 | Leadership and commitment |
| 5.1.1 | General |
| 5.1.2 | Customer focus |
| 5.2 | Policy |
| 5.2.1 | Establishing the quality policy |
| 5.2.2 | Communicating the quality policy |
| 5.3 | Organizational roles, responsibilities and authorities |
| 6 | Planning |
| 6.1 | Actions to address risks and opportunities |
| 6.1.1 | Risk identification |
| 6.1.2 | Risk treatment |
| 6.2 | Quality objectives and planning to achieve them |
| 6.2.1 | Establishing quality objectives |
| 6.2.2 | Implementation of quality objectives |
| 6.3 | Planning of changes |
| 7 | Support |
| 7.1 | Resources |
| 7.1.1 | General |
| 7.1.2 | People |
| 7.1.3 | Infrastructure |
| 7.1.4 | Environment for the operation of processes |
| 7.1.5 | Monitoring and measuring resources |
| 7.1.5.1 | General |
| 7.1.5.2 | Measurement traceability |
| 7.1.6 | Organizational knowledge |
| 7.2 | Competence |
| 7.3 | Awareness |
| 7.4 | Communication |
| 7.5 | Documented information |

- 7.5.1 General
 - 7.5.2 Creating and updating
 - 7.5.3 Control of documented information
 - 7.5.3.1 Quality management system documentation
 - 7.5.3.2 Maintaining quality management system documentation
 - 7.5.3.2.1 Control of data and documentation
 - 7.5.3.2.2 Evidence of conformity
 - 7.5.3.2.3 Retention and disposition
- 8 Operation
- 8.1 Operational planning and control
 - 8.1.1 General
 - 8.1.2 Evidence of conformity to requirements
 - 8.2 Requirements for products and services
 - 8.2.1 Customer communication
 - 8.2.1.1 General
 - 8.2.1.2 Customer representative
 - 8.2.1.3 Customer communication during development
 - 8.2.1.4 Customer communication during operations and maintenance
 - 8.2.2 Determining the requirements for products and services
 - 8.2.3 Review of the requirements for products and services
 - 8.2.3.1 Requirements review
 - 8.2.3.1.1 Customer's requirements
 - 8.2.3.1.2 Organization's concerns
 - 8.2.3.2 Maintaining requirements records
 - 8.2.4 Changes to requirements for products and services
 - 8.3 Design and development of products and services
 - 8.3.1 General
 - 8.3.2 Design and development planning
 - 8.3.2.1 General
 - 8.3.2.2 Software life cycle
 - 8.3.2.3 Review, verification and validation
 - 8.3.2.4 Responsibilities and authorities
 - 8.3.2.5 Interfaces
 - 8.3.3 Design and development inputs
 - 8.3.4 Design and development controls
 - 8.3.4.1 Design and development review
 - 8.3.4.2 Design and development verification
 - 8.3.4.3 Design and development validation
 - 8.3.4.4 Testing
 - 8.3.5 Design and development outputs
 - 8.3.6 Design and development changes
 - 8.4 Control of externally provided processes, products and services
 - 8.4.1 General
 - 8.4.1.1 Purchased products
 - 8.4.1.2 Purchased product control
 - 8.4.2 Type and extent of control
 - 8.4.3 Information for external providers
 - 8.5 Production and service provision
 - 8.5.1 Control of production and service provision
 - 8.5.1.1 Production and service provision in software
 - 8.5.1.2 Build and release
 - 8.5.1.3 Replication
 - 8.5.1.4 Delivery
 - 8.5.1.5 Installation
 - 8.5.1.6 Post-delivery operations
 - 8.5.1.7 Maintenance
 - 8.5.1.8 Validation of processes for product and service provision
 - 8.5.2 Identification and traceability
 - 8.5.2.1 Overview
 - 8.5.2.2 Traceability
 - 8.5.2.3 Configuration management process
 - 8.5.3 Property belonging to customers or external providers
 - 8.5.4 Preservation

- 8.5.5 Post-delivery activities
- 8.5.6 Control of changes
- 8.6 Release of products and services
- 8.7 Control of nonconforming outputs
- 8.7.1 Identification and control of nonconforming outputs
- 8.7.2 Retaining documented information for nonconforming outputs

9 Performance evaluation

- 9.1 Monitoring, measurement, analysis and evaluation
 - 9.1.1 General
 - 9.1.2 Customer satisfaction
 - 9.1.3 Analysis and evaluation
- 9.2 Internal audit
 - 9.2.1 Conducting audits
 - 9.2.2 Maintaining audit records
- 9.3 Management review
 - 9.3.1 General
 - 9.3.2 Management review inputs
 - 9.3.3 Management review outputs

10 Improvement

- 10.1 General
- 10.2 Nonconformity and corrective action
 - 10.2.1 Managing nonconformity
 - 10.2.2 Maintaining nonconformity records
- 10.3 Continual improvement

Annex A (informative) Summary of guidance on the implementation of ISO 9001:2015 available in ISO/IEC JTC 1/SC 7 and ISO/TC 176 standards

Page count: 69