The IAQG is a legally incorporated international not-for-profit association (INPA) with membership from the Americas, Europe and the Asia Pacific Region.
9100 revision 2016

Table of contents

- **Introduction** *(reason for revision, team and timeline)*

- Quality Management Principles

- Key changes in ISO 9001

- Key changes in 9100 additions

- High level summary of changes

- Transition summary - key dates

- Deployment Support Material - Where to find it?
Introduction
reason for revision, team and timeline
The IAQG is a legally incorporated international not for profit association (INPA) with membership from the Americas, Europe and the Asia Pacific Region.

**What is 9100? ISO 9001:2015 Baseline Text**

**9100 Series**
International Aviation, Space and Defense Quality Requirements

**ADDITIONAL REQUIREMENTS**
- Operations Risk Management
- Product Safety
- Special Requirements
- Critical Items
- Configuration Management
- On Time Delivery
- Counterfeit Parts
  - Expanded requirements for production and external providers

**ISO 9001**
Quality Management System
The “ISO 9001” needed to change, to:

– Adapt to a changing world
– Enhance an organization's ability to satisfy its customers
– Provide a consistent foundation for the future
– Reflect the increasingly complex environments in which organizations operate
– Ensure the new standard reflects the needs of all interested parties
– Integrate with other management systems
9100 revision 2016

The “9100” needs to change, to:

- Incorporate changes made by ISO TC176 to the ISO 9001:2015 requirements
  *ISO liaison organized to collaborate with the IAQG 9100 team and to obtain consideration for IAQG requirements*

- Consider Aviation, Space and Defense stakeholders’ needs identified since the last revision
  *Web survey performed in 2013*

- Consider clarifications to 9100 series requests issued by IAQG since the last revision
  *Requirements clarified or notes added*
9100 Revision 2016

Quality Management Principles
# ISO 9000 Quality Management Principles

<table>
<thead>
<tr>
<th>There were 8 principles</th>
<th>There are now 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer focus</td>
<td>Customer focus</td>
</tr>
<tr>
<td>Leadership</td>
<td>Leadership</td>
</tr>
<tr>
<td>Involvement of people</td>
<td>Engagement of people</td>
</tr>
<tr>
<td>Process approach</td>
<td>Process approach</td>
</tr>
<tr>
<td>System approach to management</td>
<td>(included in the process approach)</td>
</tr>
<tr>
<td>Continual improvement</td>
<td>Improvement</td>
</tr>
<tr>
<td>Factual approach to decision making</td>
<td>Evidence based decision making</td>
</tr>
<tr>
<td>Mutually beneficial supplier relationships</td>
<td>Relationship management</td>
</tr>
</tbody>
</table>
Key changes in the ISO 9001 Baseline content
Key Changes *(from ISO 9001:2015 baseline)*

- High level structure (HLS) & Terminology
- Risk-based thinking - Concept of preventive action now addressed throughout the standard by risk identification and mitigation
- Process approach strengthened with integration of the QMS into organization’s business processes
- Emphasis on change management
- Introduction of knowledge management
9100 revision 2016

Key Changes *(from ISO 9001:2015 baseline)*

- Clearer understanding of the organization’s context
- Aligning QMS policy and objectives with the strategy of the organization
- Explicit performance evaluation requirements
- Greater flexibility with documentation
- More compatible with services
The IAQG is a legally incorporated international not for profit association (INPA) with membership from the Americas, Europe and the Asia Pacific Region.

### Terminology Changes (from ISO 9001 baseline)

<table>
<thead>
<tr>
<th>Previous version</th>
<th>New Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Products</td>
<td>Products and services</td>
</tr>
<tr>
<td>Exclusions</td>
<td>Scope of the QMS to be formally defined and all requirements are applicable if they are in the scope</td>
</tr>
<tr>
<td>Documentation, records, documented procedures</td>
<td>Documented information</td>
</tr>
<tr>
<td></td>
<td>• maintained = documents or procedures</td>
</tr>
<tr>
<td></td>
<td>• retained = records</td>
</tr>
<tr>
<td>Purchased product</td>
<td>Externally provided products and services</td>
</tr>
<tr>
<td>Supplier</td>
<td>External provider</td>
</tr>
</tbody>
</table>

**Documented information does not need to be changed to incorporate new terminology**

**Definition Hierarchy:**

**Use of simplified language and writing styles to aid understanding and consistent interpretation of requirements**
High Level Structure

- ISO is going from 8 clauses to 10 clauses

<table>
<thead>
<tr>
<th>Plan</th>
<th>Do</th>
<th>Check</th>
<th>Act</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Context of organization</td>
<td>7 Support</td>
<td>9 Performance Evaluation</td>
<td>10 Improvement</td>
</tr>
<tr>
<td>5 Leadership</td>
<td>8 Operation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Planning</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Rationale

- Better alignment to business strategic direction
- PDCA approach
- All ISO management systems standards built on the same structure and same terminology, to facilitate the option of having one integrated management system
- This structure is intended to provide a coherent presentation of requirements rather than a model for documenting an organization’s policies, objectives and processes
9100 Revision 2016

Key changes in the 9100 additions
Key Changes *(aviation, space and defense requirements)*

As a consequence of the new ISO 9001 structure:

- 9100 additions have been *relocated* into appropriate ISO sections

- the requirements are better *organized* and *clarified*, with notes and examples to enhance understanding
Key Changes  *(aviation, space and defense requirements)*

- **Product safety**  
  added in a separate clause and in selected areas

- **Counterfeit parts prevention**  
  added in a separate clause and in selected areas

- **Risk**  
  merged current 9100 requirements with the new ISO requirements and emphasis on risks in operational processes

- **Awareness**  
  reinforced requirements for awareness of individual contribution to quality

- **Human factors**  
  included as a consideration in nonconformity / corrective action

- **Configuration management**  
  clarified and improved to address stakeholder needs
9100 Revision 2016

High Level Summary of Changes
Implementation benefits
The IAQG is a legally incorporated international not for profit association (INPA) with membership from the Americas, Europe and the Asia Pacific Region.

**9100 Changes - High Level Summary**

<table>
<thead>
<tr>
<th>Clause 1 Scope</th>
<th>No Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clause 2 Normative ref</td>
<td>ISO 9000:2015 referenced</td>
</tr>
<tr>
<td>Clause 3 Terms and definitions</td>
<td>ISO 9001 terms and definitions moved to ISO 9000</td>
</tr>
<tr>
<td>Clause 4 Context of the organization</td>
<td>Maintained documented information is required, can be named Quality Manual</td>
</tr>
<tr>
<td>Clause 5 Leadership</td>
<td>QMS compatible with strategic direction</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Clause 6 Planning for the QMS</th>
<th>When planning the QMS, determine the actions needed to address opportunities and risks (prevention)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clause 7 Support</td>
<td>Determine knowledge management requirements</td>
</tr>
<tr>
<td>Clause 8 Operation</td>
<td>Planning for product obsolescence</td>
</tr>
<tr>
<td>Clause 9 Performance evaluation</td>
<td>Assess performance of QMS processes</td>
</tr>
<tr>
<td>Clause 10 Improvement</td>
<td>Consider human factors in nonconformity / corrective action</td>
</tr>
</tbody>
</table>

All ISO MS standards will now have this common 10 clause structure
Implementation Benefits

• When implemented and managed well:
  – Produce and continually improve safe and reliable products
  – Meet or exceed customer and regulatory requirements to ensure satisfaction
  – Processes necessary to conduct day-to-day business are defined where necessary and managed
  – Improved integration with business operations and strategy
  – Documentation accurately reflects the work to be performed and actions to be taken
  – Focus on the complete supply chain and stakeholders
  – Fewer customer unique documents
  – Recognized by Regulatory Authorities
9100 series Revision 2016

Transition summary
### 9100/9110/9120:2016 Transition Summary

<table>
<thead>
<tr>
<th>Key Dates</th>
<th>Major activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 2015</td>
<td>ISO 9001:2015 Standard published and a 36 Month Certified Client ISO transition begins</td>
</tr>
<tr>
<td>October 2015</td>
<td>IAQG General Assembly approval of ICOP 9100/9110/9120:2016 Transition Plan</td>
</tr>
<tr>
<td>May 2016</td>
<td>9100 completes final approval and editing and is released for publication bodies</td>
</tr>
<tr>
<td>September 2016</td>
<td>9100 standard published in all 3 sectors</td>
</tr>
<tr>
<td>October 2016</td>
<td>9101, 9110 &amp; 9120 published in all 3 sectors</td>
</tr>
<tr>
<td>November 2016</td>
<td>Mandated Aerospace Auditor “transition” training available in IAQG languages.</td>
</tr>
<tr>
<td></td>
<td>OASIS Next Generation project phase 1 complete. Database available for entry of transition audit results</td>
</tr>
<tr>
<td>June 2017</td>
<td>All future audits must be to the 9100/9110/9120:2016 standard using 9101:2016 audit process.</td>
</tr>
<tr>
<td>September 2018</td>
<td>Transition complete all 9100/9110/9120:2009 certificates are no longer valid.</td>
</tr>
</tbody>
</table>

**AQMS transition timeline revised based upon change in key dependencies completion dates**
9100 Revision 2016

Deployment Support Material

Where to find it?
The IAQG is a legally incorporated international not for profit association (INPA) with membership from the Americas, Europe and the Asia Pacific Region.
IAQG 9100 - Quality Management Systems - Requirements for Aviation, Space and Defense Organizations

This document standardizes quality management system requirements to the greatest extent possible and can be used at all levels of the supply chain by organizations around the world. Its use should result in improved quality, schedule and cost performance by the reduction or elimination of organization-unique requirements and wider application of good practice. While primarily developed for the aviation, space and defense industry, this standard can also be used in other industry sectors where a quality management system with additional requirements over an ISO 9001 system is needed.

- 9100:2016 - Quality Management Systems: Aviation, Space and Defense Organizations
  - [Key Changes Presentation](#)
  - [Clause-by-Clause Presentation](#)
  - [Correlation matrices between 9100:2009 and 9100:2016](#)
  - [Matrix of 9100:2009 mapped against the 9100:2016](#)
  - FAQ
  - [2016 August Quality Progress: Prepare for Landing - How to get ready for the revised AS9100 series of standards](#)
    (Reprinted with permission from Quality Progress © 2016 ASQ, www.asq.org No further distribution allowed without permission)
Questions