9104-1
“REQUIREMENTS FOR CERTIFICATION OF AVIATION, SPACE, AND DEFENSE QUALITY MANAGEMENT SYSTEMS”

CHANGE PRESENTATION
IN SUPPORT OF
MARCH 2021 – RE-BALLOT PROCESS
IAQG 9104-1:2022

• The 9104-1:2022 represents a COMPREHENSIVE revision to the previous standard.

• This update is focused on “clarification of requirements” and includes:
  – Clearly stated requirements, in the correct location within the standard
  – A new Organization Certification Analysis Process (OCAP)
  – Remote auditing allowance increased to 50%
  – Graphics and examples inserted to provide clarity
  – A new Performance Based Surveillance / Recertification Process (PBS/RP)
Core Team Members

- IDR & Project Lead – Tim Lee
- Administrator – Ian Folland
- Americas SDR – Darrell Taylor
- Americas 9104/3 - IDR – Eric Jefferies
- European SDR – Marie-Laurence Petit
- Asia Pacific SDR – Katsuji Fukumoto
- Certification Body Representatives
  - Americas – Bob Parsons (NQA)
  - Europe – Brendan Hill (BSI)
  - Asia Pacific – Shunsuke Yano
- Accreditation Body Representative – Dale Gordon
Rationale for change

– Align with ISO/IEC 17021-1:2015, ISO/IEC 17011:2017 criteria and IAF Mandatory Documents

» ISO as Supplemented by Aviation, Space & Defence industry unique Industry Controlled Other Party (ICOP) sector scheme requirements

Competent auditor + appropriate location + sufficient time = value added audit & report
Scope of Revision

• The 9104-1 Document is a COMPLETE rewrite of the existing Standard
• The standard contains requirements that are complementary and in addition to:
  • ISO/IEC 17011
  • ISO/IEC 17021-1
  • IAF MD 1, 2, 4, 5, 11, 12
  – IAQG 9101, 9104-2 and 9104-3 (as recently revised)

  The requirements of these standards are NOT restated in 9104-1

• A significant “step up” in the drive to reduce QMS nonconformance and oversight with built in audit reductions for consistently high performing and conforming organizations
9104-1 Design Specification

• The writing team established and followed the IAQG approved design specification during the re-ballot effort.

• The IAQG 9104-1 re-ballot draft standard:
  – complies with the IAQG five-year standard review criteria;
  – aligns with ISO/IEC 17021-1:2015, and ISO/IEC 17011:2017 criteria and IAF MDs;
  – ensures linkage to 9104-2, 9104-3, and 9101 standards;
  – incorporates existing IAQG OPMT resolutions and FAQs;
  – incorporates information derived from analysis of the Industry Controlled Other Party (ICOP); certification process.
Key Process Changes

The revised 9104-1 standard includes modified requirements for:

- IAQG committee, oversight and management of the Industry Controlled Other Party (ICOP) certification scheme, including introduction of Regional Management Structures (RMS)
- AB Witness Audits and File Reviews
- Audit Duration requirements
  - Audit Calculator replaced with a risk-based Organization Certification Analysis Process (OCAP) – with data driven from client information
  - Allowances for site specific audit duration based on risks and activity
  - A functional example OCAP tool is available for use
  - Option to utilize a Performance Based Surveillance and Recertification Process (PBS/RP)
Key Changes to 2012 Published Standard

General:

• In order to protect the ICOP scheme, participants must report observed conduct that could adversely effect the integrity of the ICOP certification scheme.

• Site Structures
  – Single and Multi-sites only
    • Per IAF MD 5 and MD 1
  – Eliminated Campus, Several Site and Complex (eliminates CSOC - Certification Structure Oversight Committee as well)
Why isn’t “Campus” retained in 9104-1?

• In the 2012 version of 9104-1 the concept of Campus was introduced as it was permitted in the IAF Mandatory Document (MD1) at that time.

• Since publication of 9104-1, the IAF changed the requirements in MD1:
  – The method of calculation of audit duration used in the Campus Certification structure is no longer permitted (i.e. summing all the employees for all sites).
  – “Campus” is also not permitted in the calculation of audit duration for ISO 9001 certification or any other accredited management system certification.
  – IAF MD 1 requires the calculation of audit duration separately for each site.

• As the ICOP scheme is based on the requirements for accredited third-party certification it was not possible to retain the Campus approach.

• Organizations with consistently high performing management systems may consider the optional approach within the PBS/RP as an alternative.
Key Changes

Certification Program:

- The organization context, certification structure and audit time calculation have been revised to include a new Organization Certification Analysis Process (OCAP):
  - Aligned with ISO and IAF MDs
  - Non-applicable processes result in audit duration reduction from the established minimum baseline.
  - OCAP will be used to drive the audit duration baseline and includes increases, allowance for decreases and movement of audit duration between sites; with limitations
  - Re-ballot includes graphics that clarifies audit duration calculation

Example:
- Number of personnel at site = 150. It is a recertification audit. The site has no design process.
- Audit duration for the site from Table 8 = 7 days.
- Risk Analysis for the organization is “Low” so from Table 9 = a 10% reduction in audit duration.
- Reduction for no design process at the site from Table 10 = 20% reduction in audit duration.

Total audit duration time adjustment is 10% + 20% = 30% or 2.1 days (7 x 0.3).

Total audit time for the audit (after adding calculated time for each site) is total audit duration (7 – 2.1 = 5 rounded to the nearest ½ day) plus 20% or [5 x 0.2] = 1 day + 5 = 6 days.

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Key Changes - OCAP

The Organization Certification Analysis Process (OCAP) includes the following concepts:

- Organization Context
- Certification Audit Program
- AQMS Risk Analysis
- Audit Time

- AQMS Standard
- Core Processes
- Applicable IAQG Standards
- Physical Site(s)
- Virtual Sites
- QMS Processes
- Org. Performance
- Complexity
- Internal Audit Maturity
- Customer Satisfaction
- Resulting Risk: High – Med – Low
- On-site
- Off-site
- Audit Duration
- MD 5 Baseline used for:
  - Planning
  - Auditing
  - Report writing
Key Changes

- **CB Certification Program: RISK ANALYSIS**
- Data to be supplied by the Client / Organization to the CB

<table>
<thead>
<tr>
<th>Metric</th>
<th>Data Source</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-time Delivery</td>
<td>Organization</td>
<td>Exceeds</td>
<td>Meets</td>
<td>Below</td>
</tr>
<tr>
<td>Conformity of Delivered Product or Service</td>
<td>Organization (e.g., item escape rate)</td>
<td>Exceeds</td>
<td>Meets</td>
<td>Below</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>Organization</td>
<td>Exceeds</td>
<td>Meets</td>
<td>Below</td>
</tr>
<tr>
<td>AQMS Process Effectiveness from Previous Audit Report</td>
<td>Process Effectiveness Assessment Reports (PEARs)</td>
<td>5</td>
<td>3-4</td>
<td>1-2</td>
</tr>
</tbody>
</table>

**RISK ANALYSIS**

<table>
<thead>
<tr>
<th>% CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
</tr>
<tr>
<td>- ≤10%</td>
</tr>
<tr>
<td>Medium</td>
</tr>
<tr>
<td>No Change</td>
</tr>
<tr>
<td>High</td>
</tr>
<tr>
<td>+ ≥10%</td>
</tr>
</tbody>
</table>

Risk is calculated at the “Organization” level and adds or subtracts from AUDIT DURATION by SITE.
### Key Changes to 2012 Published Standard

#### Client Participation:

- The CB requires client participation in the audit planning process by submitting QMS performance and change data in advance of any audit. The CB process includes a review of the submitted data by the lead auditor, prior to starting the audit. Data review to be documented as part of OCAP.

- Client must identify supporting IAQG standards they have implemented in their AQMS.

#### IAQG Standards Matrix

<table>
<thead>
<tr>
<th>Aerospace Standards</th>
<th>Number</th>
<th>Release Date</th>
<th>Contractually Flowed Down &amp; Compliant</th>
<th>Voluntarily Compliant</th>
<th>Voluntarily Partially Compliant</th>
<th>List Equivalent Industry Standard(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Object Damage (FOD)</td>
<td>9146</td>
<td>26-Apr-17</td>
<td></td>
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<td></td>
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<tr>
<td>Prevention Program - Requirements for Aviation, Space, and Defense Organizations</td>
<td>9146</td>
<td>26-Apr-17</td>
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<td>Aerospace First Article Inspection Requirement</td>
<td>9102</td>
<td>6-Oct-14</td>
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</table>

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Key Changes to 2012 Published Standard

• CB Certification Program:
  – Performance Based Surveillance/Recertification Process (PBS/RP)
    • Replaces IAF MD3
  – High Hurdle for Entry and remaining in the Program
    • Entry allowed only after 1 certification cycle (3 years)
    • Robust Internal Audit Program / ASD Lead Auditor Course
    • Low / no Complaints / Meet KPIs consistently
    • Good results / No major NCRs from CB audits
  – Methodology – All sites Initial
    • One-Third of sites for each surveillance + Central Function
      NOTE: Using recertification audit duration for the sites
    • One-Third of sites at Recertification + Central Function
      NOTE: Central Function can be a virtual site
  – Program adjustments when performance criteria is not continually met
Key Changes to 2012 Published Standard

— Audit Duration
  • Flexibility to determine the amount of calculated audit duration to be used at each site.
  • Re-ballet has increased allowance for use of remote audit using IAF MD4 (50% Max)
  • Audit duration is based on the results of OCAP, justified and supported with documented information

— Audit report writing
  • Off-site time for report writing may be used during performance of the on-site audit

— Auditor rotation
  • Required after a maximum of 6 consecutive audits, unless justification is submitted and approved by AB
Key Changes to 2012 Published Standard

Appendices:
The re-ballot still includes appendices that provide clarification:
- ICOP Certification Model
- OASIS Feedback Model
- PBS/RP Process Flow
The new version of the 9104-1:2022 standard represents a significant change to the Industry Controlled Other Party (ICOP) Aviation, Space & Defense (AS&D) Quality Management System (QMS) certification process based on lessons learned.

All changes are aligned with the revision objectives and are needed to improve, innovate, add value and promote confidence in the ICOP certification scheme.

We need your support to effectively implement these much needed changes.

**Summary**

*Industry Controlled Other Party*

*Aerospace Quality Management System Certification*

*Robust – Recognized – Valued*