



Revision to 9104-1 Aerospace Certification Requirements

Denver, CO

June 7, 2022



Major Changes of the 9104-1 Standard

Eliminate duplication of ISO/IEC 17021-1 or IAF MD requirements
Only unique scheme requirements in standards

Changed AB witness audit sampling requirements

Site structure to follow IAF MD 1 and Md 5 requirements

Redefined audit duration vs audit time requirements
Audit duration based on “effective number of persons” by site



Major Changes of the 9104-1 Standard

Introduces new process called “OCAP” (Organization Certification Analysis Process) that eliminates the Audit Day Calculator (ADC)

Introduces new process called “PBS/RP” (Performance Based Surveillance/Recertification Process) for ‘high performing’ AQMS organizations

Expanded use of remote auditing (up to 50%) using IAF MD4 requirements



Certification Body Requirements

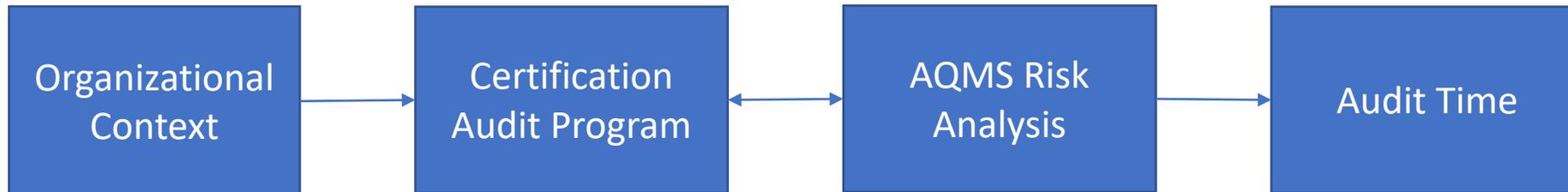
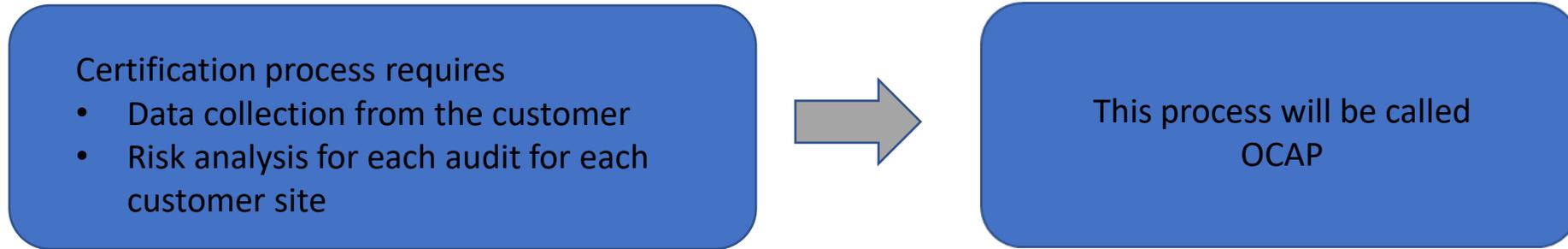
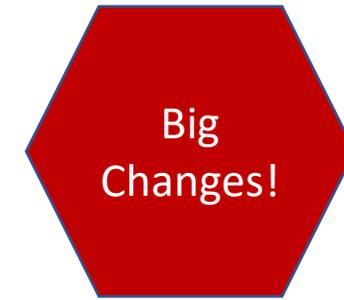
Legally enforceable arrangements

- No substantive changes, but review for conformity including access restrictions

Certification documents

- Client identity (includes dba)
- Site identification including sub-scopes
- Multiple standards on 1 certificate (91xx and ISO 9001)
 - Same scopes
- Reference to 9104-1 (year) on certificate

AQMS Certification Requirements





Certification Body Requirements

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- No substantive changes, but review for conformity including access restrictions

Certification documents

- Client identity (includes dba)
- Site identification including sub-scopes
- Multiple standards on 1 certificate (91xx and ISO 9001)
 - Same scopes
- Reference to 9104-1 (year) on certificate

Other Standards Application

Must take into consideration other customer-mandated AQMS standards



CBs shall require that organizations provide information regarding the use of additional aerospace standard(s) listed within the IAQG Standards Register during the initial stage 1 audit and updated, as needed, prior to surveillance or recertification audits



Discussion: AQMS Scope Alignment

CB client – Large Co. is a multi-site organization that has 5 sites. The certificate has the following scope:

Site, Design, Certification, Manufacturing, and Repair of aircraft systems and components

- Site 2 Sub Scope
 - Certification Testing, and Manufacturing of aircraft systems and components
- Site 3 Sub Scope
 - Distribution of aircraft systems and components
- Site 4 Sub Scope
 - Design of aircraft systems and components
- Site 5 Sub Scope
 - MRO of aircraft systems and components



CB Certification Requirements

OCAP process to determine audit duration

- Customer requirements (AQMS standards)
- Organizational risk analysis (addition or reduction of time)
- Site structure (per IAF rules)
- Audit duration calculation (per table) by site
- Audit time determination (report writing, etc.)

Site Structures

Certification Structure

- What would “ISO” do?
 - IAF MD 1 and 5 only
 - Single and multi-sites
 - No site sampling allowed as per IAF MD 1
 - ASRP replacement – audit reductions for ‘high performing’ organizations (PBS/RP)

Need to pay attention to central function impact on multi-site audit durations (per IAF MD 1)



Site Structures

Allowance for 'virtual' central function per IAF MD 1

Could be a part of a site or combination of personnel from several sites

The Central Function does not have to be all inclusive of the HQ or site where CF people are located, the CF can be a "virtual" site

Can you Determine the Structure?



3 Addresses

7 Buildings

1 Scope



Site Structure Allowance

- A single site certification structure shall have one address documented on the certificate and in the OASIS database
- A single site may have additional buildings and addresses at the same geographical location; however, these buildings and addresses will not be listed in OASIS
- If additional addresses are needed to define the business locations or sites to support customer interactions, then a multi-site structure may be appropriate
- The determination and justification of the certification structure is required to be retained as a record in the CB files

Audit Planning

Stage 1 audits

- On-site requirements still apply
- Multi-site rules still apply (relevant number of sites)
- Must be a “pause” between stage 1 and 2
 - At least 1 day in between

Stage 2 audits

- No changes, all sites to be covered



Audit Planning

Audit Plans must include auditing of the “risks” identified during the risk analysis

OCAP risk analysis is completely “re-run” with updated client information

Clients must provide ‘new metrics’ prior to each audit, including

- Internal audit program
- On time delivery
- Delivered product conformity
- Customer feedback/complaint

Customer data must be “verified” during the audit



Audit Duration Determination

- Additions or Reductions
 - Risk

RISK ANALYSIS	% CHANGE
Low	Minus 10%
Medium	No Change
High	Add 10%

- Processes (not included)

PROCESSES (not present at site)	AUDIT DURATION REDUCTION
Management of QMS	10%
Design and Development of Product and Services	20%
Control of Externally Provided Processes, Products, and Services	15%
Control of Production and Service Provision	20%

Discussion: Audit Planning

All processes identified in the AQMS (AS9101 form 2) are to be covered during the certification cycle

- Annual audit of purchasing no longer required

Audit plans shall clearly identify previous NCR verification

- Additional time is expected if:
 - The process that had an NCR is not being re-audited
 - There are a high number of NCRs to be verified

How many NCRs are enough to add more time?

Audit Planning

Auditing of processes “proportional” to their use on each shift

Example – number of production people per shift

- 1st shift = 80%
- 2nd shift = 15%
- 3rd shift = 5%

Would 3rd shift have to be audited each time? What about 2nd shift?

Audit Teams

An AEA shall 'participate at each site being audited, including ICT audits, during the 'entire audit'

Six consecutive audit limitation for any auditor

Two-year prohibition of auditors going with transferring clients
(only applicable if the auditor has been the auditor for 2 years or more previously)

Discussion: Audit Teams

Point 1

- What is the limitation for a transfer with the same auditor who has been the lead auditor for less than 2 years, but has been for 2 audits?

Point 2

- What if the transfer occurred just before the transition?



Performing the Audit (AS9101)

OCAP data drives each audit plan activity

OCAP data verified at each audit

Format significant changes to Stage 1, Stage 2, Surveillance or Recertification requirements

- Or single opening meeting held via ICT for all sites
- Site tour is optional except for Stage 1

Focus on special processes (AS9101) is still significant when used

No significant changes to the Stage 1, Stage 2, Surveillance or Recertification requirements

Special Audits



Scope extensions, site additions, certificate structure

- On-site required
- New OCAP required
- Audit duration is based on initial audit time for adding new sites (can be reduced)

Transfers (may be remote)

- PEAR not required

Complaints (may be remote)

- New AS9108 standard for DCMA and OEM
 - Major finding from customer
- Ethical complaint
- Must be complete within 30 days

Special Audits – AS9101



Reason for Special Audit	QMS Process Matrix Report (see Form 2)	Process Effectiveness Assessment Report (PEAR) (see form 3)
Transferring certification from one CB to another	Not Required	
Reducing an organization's certification scope, or number of sites and/or locations		
Verification of evidence to support application of Performance Based Surveillance/Recertification Process (PBS/RP)		
Change to an organization's certification structure	Required	Required, if special audit activity is conducted against 9100-series standard clause 8
Investigate compliant or serious issue		
Follow up from an organization's suspension		
Expanding an organization's certification, scope, or number of sites and/or locations		



Integrated Management Systems

To be in accordance with IAF MD 11

- No allowable reductions in AQMS calculated audit time when combined with a non-AQMS standard

For AQMS integrated Standards (AS9100, AS9110, AS9120)

- Calculate the highest audit duration standard
- 50% reduction for each additional standard calculation
- Site and reduction rules still apply

Single or multiple AS91XX certificates may be issued

Performance Based Surveillance/Recertification Process



Only for use after a least 1 full certification cycle (3 years from initial)

Only for use by organizations that have a high performing AQMS

Geared to larger – multi-site organizations (augments IAF MD 1 rules)

- Single site can get a 33% audit duration reduction (max 50%)
- Use of “Recertification Time” for all audits from Table 8
- Can add sites after achieving PBS/RP

Audit Program – Multi-site

- Surveillance 1 – the central function and 33% of the sites
- Surveillance 2 – the central function and 33% of the sites
- Recertification – all remaining sites and the central function

PBS/RP Requirements

Client Organizational Requirements

- Low/medium risk for all sites
- High performing continual internal audit program
- AEA trained (and authenticated) internal auditors
- Organizational ethics policies in place
- No major customer-initiated AQMS related NCRs in past 12 months
- No certificate suspension in past 6 years (due to AQMS item)
- Meeting satisfaction measures from customers

Loss of PBS/RP

Reason for loss

- Suspended certificate
- Risk moves to high at any site (can be mitigated and CA)
- Does not meet PBS/RP criteria at any time (previous page)
- External major NCR issued (Customer or CB)
- Failure to meet or exceed customer satisfaction measures



Use of ICT for audits

Use of ICT to be in accordance with IAF MD 4

ICT may be used for up to 50% of an audit duration for each site

- On site time still required for each site with a physical location
- ICT will NOT reduce calculated audit duration



Certification Decisions - Changes

Transfers

- Requires a new OCAP in pre-transfer review
- Transfer can be remote special audit (unless high risk)
- Requirement for Stage 1/Stage 2 within 12 months removed
 - Initial certification prohibited to avoid NCRs from previous certification
- Can transfer a PBS/RP organization

Certification Decisions - Changes



Suspension

- Failure of NCR closure in 90 days
- Substantiated ethical complaint

ISO/IEC 17021-1 p 9.6.3.2.5 applies except

- PEAR not required

OASIS

- To be updated within 14 days from the “decision” to suspend or withdraw a certificate

Complaints and Appeals



AB and CB compliant and appeal processes apply

- CB to AB
- Client to AB
- Client to CB

All other complaints to be in OASIS

- 30-day response from receipt
- 90 day for short notice audit (if applicable)

Complaints about CBs have 60 days for CB to respond

NCRs or actions from ICOP oversight in OASIS

- CBs required to respond

AS9104-1 Transition



ANAB Transition Application for CBs

- Should be available 2 – Jan-2022
- Will be reviewed by EATL or AQMS assessor
- Approved by the accreditation manager
- Will have 12 months to complete application

ANAB must transition and be approved by AAQG RMS

- Should be within 6 months of January 2022

Certificates would have to transition at next recertification after CB accreditation approval or a planned surveillance within 18 months

Audit Duration

Calculation of Audit Duration

- Opening meeting to closing meeting
- Use Table 8 (IAF MD 5 plus 20%)
- Calculated by site (using OCAP tool instead of ADC)
- Adjusted for risk
- Adjusted for processes
- Time can be moved across sites for multi-site structure
- Rounded (up or down) to nearest ½ day



Audit Duration Determination Additions or Reductions

- Risk – Table 9

RISK ANALYSIS	% CHANGE
Low	Minus 10%
Medium	No Change
High	Add 10%

- Reductions for Processes (not at site) – Table 10

PROCESSES (not present at site)	AUDIT DURATION REDUCTION
Management of QMS	10%
Design and Development of Product and Services	20%
Control of Externally Provided Processes, Products, and Services	15%
Control of Production and Service Provision	20%



Audit Duration Calculation

Determine time from effective persons by site

Calculate the risk addition or reduction first from required time

Calculate the process reductions next (if any)

Organizational Risk Analysis Table 9
Time adjustment of plus or minus
10 percent or no change



Audit Duration Reduction by Site –
Table 10 Time reductions if any
from processes not applicable by
site



Total Audit Duration Time
Adjustment (plus or minus) by site



Audit Time

Audit Time = Audit Duration plus 20%

- The 20% is to cover travel, meals, extended break times, and non-audit activities including report writing
- Report writing time (from the additional 20%) can be added back to audit duration time
- The audit time determination shall be retained as a record that includes the audit duration, adjustments, and justification information

Audit Time – Integrated Management Systems (IMS)



For AQMS integrated standards
(AS9100, AS9110, AS9120)

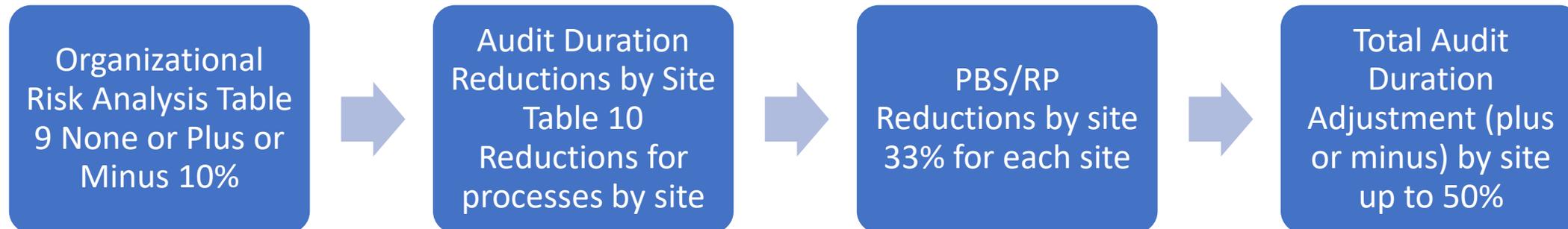
- Calculate the highest audit duration standard
- 50% reduction for each additional standard calculation
- Table 9 and 10 site risk and reduction rules still apply

For all others IAF MD 11:2013
applies

- No more than 20% reduction of the sum (T) of all audit duration for all standards



PBS/RP Audit Duration Calculation





Thank you!

Questions?

sam@aviationsuppliers.org or

wyndie@aviationsuppliers.org