



PREPARE FOR TAKEOFF: THE AEROSPACE AS9104 TRANSITION

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SUSTAINABILITY

- **e-learning** Introduction
- **1-day** Introduction Courses
- **2-day** Implementation Courses
- **2-day** Internal Auditor – NQA or IRCA
- **5-day** Lead Auditor – NQA or IRCA





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KEY INFO

- 45-minute webinar
- Questions in the chat box
- Q&A at the end
- Recording of webinar circulated shortly after

YOUR PRESENTER



Archie Gemmell

AS9100D, AS9120B, AS6081,
ISO 9001, ISO 14001, ISO 45001

Aerospace & Defence Sector Manager (AEA)

Archie joined NQA in November 2017 utilising his experience accrued over 22 years in the RAF to qualify initially as an ISO 9001:2015 Auditor. He has used this as the foundation to qualify as an AS9100D approved Aerospace Experienced Auditor (AEA).

Following this Archie has subsequently qualified to audit against AS9120B – ASD Distributors and AS6081 – Fraudulent/Counterfeit Electronic Parts and manages the Aerospace team at NQA's head office.



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WHAT IS AS9104-1A:2022?

NQA conducts audits to the following **aerospace, space and defence standards**:

- **AS9100** – ASD organisations
- **AS9110** – Maintenance repair organisations
- **AS9120** – Stockists and distributors

The AS9104-1 is the **top-level document** used to **govern the method of auditing, audit planning and the audit duration** for these audits.

WHAT IS AS9104-1A:2022? (CONT.)

The document captures the **requirements for stakeholders involved in the overall aerospace certification process**, including:

- Accrediting bodies
- Certification bodies
- Certified AQMS Organisations (i.e. customers)
- Approved training providers
- Auditor authentication bodies



AS9104-1A:2022 sets out the requirements for the entire, end-to-end process.

WHY IS A TRANSITION TAKING PLACE?

AS9104-1 was last released in 2012. Since then, there have been significant changes to other supporting documents.

AS9104-1 has been amended and re-written to bring it up to date and aligned to:
ISO/IEC 17021-1:2015 | ISO/IEC 17011:2017 | IAF Mandatory Documents

A new standard is always supported by/paired with Supplemental Rules (SRs), which are essentially owners' manuals for these new standards.

SR004 supports this revision (AS9104-1:2022) and sets the expectations and requirements for the rollout of this new standard.

HOW DOES THIS AFFECT YOU?

The roll out of the AS9104-1:2022 introduces some new concepts and requirements when planning third-party ASD audits. This covers 3 main areas:

- Changes to **site structures**
- Changes to **audit planning**
- Changes to **method of audit time calculation**



The reason: to provide more clarity around the structure, improve planning and calculate the audit time based on what the customer actually does.

This enhances the focus of the audit on risk areas and will provide appropriate time and focus based on the complexity of your processes at each site.

SITE STRUCTURES

The concept for 'site structure' has been simplified.



Once transition is complete, your organisation will be defined as either **single** or **multiple-site** structure.

This sees a move from the current set of:

- Single
- Multi
- Several
- Complex
- Campus





AUDIT PLANNING AND CALCULATION

EXISTING METHOD

Audits are currently planned using the **Audit Day Calculation (ADC)** in OASIS.

This is a simple method carried out using Table 2 in the current version of AS9104-1, calculating the days based on:

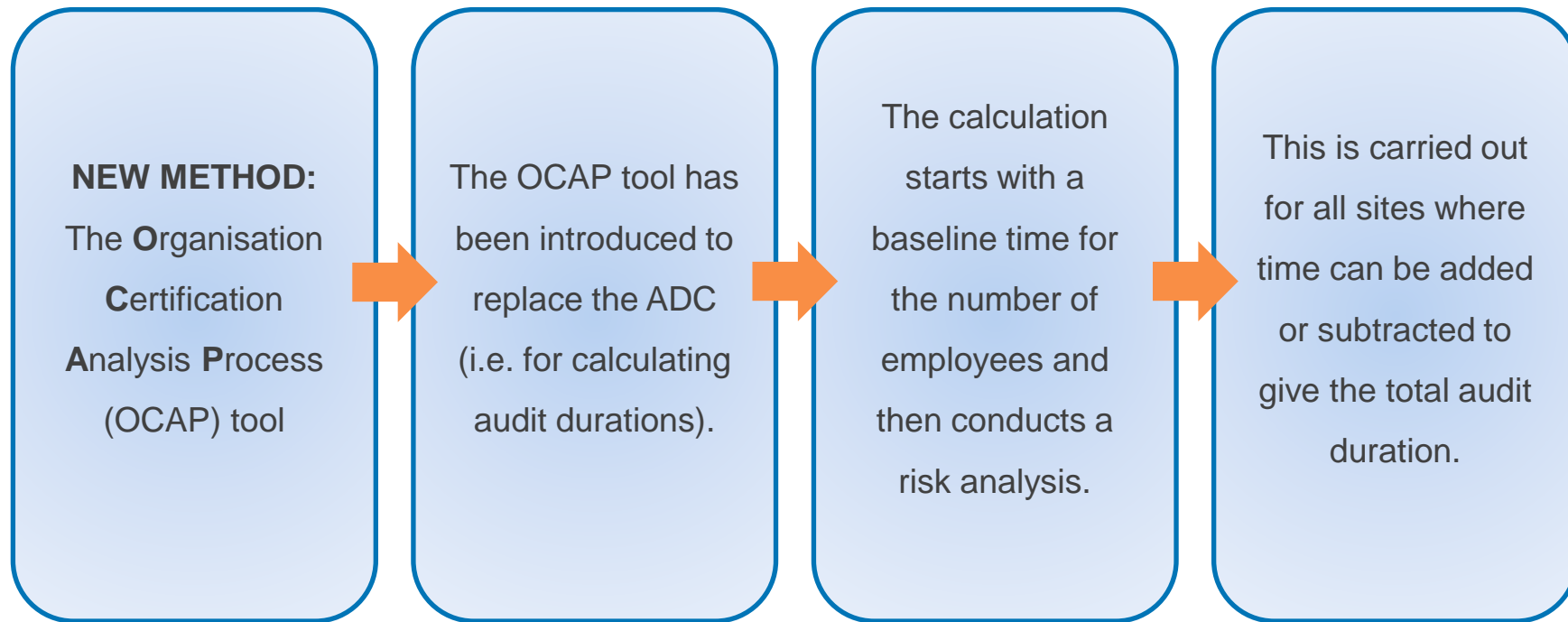
- Number of employees
- Certificate type
- Design – applicable or not applicable

Additional time is then added for:

- Report writing
- Shift patterns
- Complexity
- Number of processes

**= the total number of audit days
for the audit duration**

AUDIT PLANNING AND CALCULATION



ORGANISATION CERTIFICATION ANALYSIS PROCESS (OCAP) TOOL

The OCAP tool helps make the **audit more aligned** to what you do, how the **organisation is set up**, and the **risk and complexity** of your processes.

It looks at:

- **Complexity** – Small Simple or Complex / Large Simple or Complex
- **Performance** – OTD, quality, customer satisfaction, PEAR scores (previous)
- **Internal audit** – How it's delivered



This provides an **overall risk score**, which is then used with some other factors to **determine the audit time and duration**.

ORGANISATION CERTIFICATION ANALYSIS PROCESS (OCAP) TOOL (CONT.)

The OCAP tool is completed with various inputs from stakeholders, including:

- **NQA** – Setting up the OCAP tool
- **Customer** – Data Gathering Form
- **Auditors** – Verification

The OCAP tool is currently in an Excel format but will eventually migrate into OASIS Version 3 and replace the integrated ADC tool.



WHAT WILL CHANGE FOR YOU?

The process won't change too much.

You will be **asked for more information upfront**, though in the **same manner as you are currently**.

- Most of the information will be gathered using a **revised mandatory Data Gathering Form**.
 - This will be **more comprehensive in capturing the information required** as an input to the OCAP Tool.
 - It will be **issued to you 120 days before the audit**, and must be returned to allow planning to start.
-

ORGANISATION RISK ASSESSMENT – RISK ANALYSIS ADJUSTMENT

The reviewed pre-audit gathering tool asks customers for relevant information.

5. Internal Audit Programme	
Criteria	Select most applicable
<ul style="list-style-type: none"> Yearlong audit program Audit full QMS annually Audit program driven by risk and data 	
<ul style="list-style-type: none"> Internal audit is an annual event Full QMS is covered annually 	
<ul style="list-style-type: none"> Full QMS not covered annually Primarily desk top audits 	
Comments on the above	

6. On-time Delivery	
Criteria	Select most applicable
<p>Definition: On Time Delivery (OTD): On time delivery punctuality level of item deliveries measures number of purchase order lines/items delivered on time in the percentage of purchase order lines/items due in the period. Indicator expressed in %.</p> <p>Time period is determined as the period since the last assessment</p>	
Exceeding the customer agreed OTD requirements for majority of your customers (e.g. 90%)	
Meeting or close to meeting the customer agreed OTD requirements with an action plan to correct any short falls. This should be for 50% of the customers or more with no significant outliers.	
Not currently meeting Customer OTD requirements for more than 50% of your customers.	
Comments on the above	

7. Conformity of delivered product or service (e.g., Item Escape Rate)
<p>Definition: Item Escape Rate: (IER) Number of non-conforming items under company liability vs. number of items delivered by the company during the period.</p> <p>This KPI measures number of items delivered to the customer and subsequently identified by this customer as not compliant to the applicable definition or specification. It excludes non-conformities that are not under liability of the organization (e.g. parts damaged by the customer during installation). Indicator expressed in parts per million (PPM) or</p> <p>NOTE: Sources of information can be such as:</p>
<p>8. Customer Complaints/Feedback</p> <p>Definition: Complaints received from customers relating to product or service Non-conformances raised by customers against your management</p>
<p>Criteria</p> <p>Exceeding the customer agreed Quality majority of your customers (e.g. 90%)</p> <p>Meeting or close to meeting the customer requirements with action plans to correct for 50% of the customers or more with</p> <p>Not meeting Customer Quality/Conformance 50% of your customers.</p>
Comments on the above

8. Customer Complaints/Feedback	
Criteria	Select most applicable
A minimum number of Customer Complaints/Corrective Actions (relative to the size of the organization), no majors against the Management Review, Internal Audit, Corrective Action processes, with quick turn response to any identified issues.	
A small number of Customer Complaints/Corrective Actions, with the majority being minor issues with good response time.	
A large number of Customer Issues/Corrective Actions, written against many parts of the QMS, including a number of Majors.	
Comments on the above	

Additional Aerospace IAQG Standards:

Aerospace Standards	Number
Aerospace Series - Root Cause Analysis and Problem Solving (9S Methodology)	ARP9136
Guidance for the Application of AQAP 2110 within a 9100 Quality Management System	ARP9137
Aerospace Series - Notice of Change (NOC) Requirements	AS9116
Delegated Product Release Verification	AS9117
Aerospace Series - Quality Management Systems Statistical Product Acceptance Requirements	AS9138

AUDIT PLANNING AND CALCULATION – NEW METHOD

With the new method, the calculation is based on AS9104-1A:2022

– Table 8 as a baseline.

Adjustments:

- Risk analysis adjustment (+10%, 0%, -10%)
- Reductions (site specific process exclusions, e.g. design) up to 50%
- Additions (e.g. use of translators, additional time for corrective actions, report writing and planning time, additional AS standard application)

Table 8 - Audit duration per site

Number of Personnel	Initial Audit Duration	Annual Surveillance Audit Duration	Recertification Audit Duration
1-5	2	1	2
6-10	2.5	1	2
11-15	3	1.5	2.5
16-25	3.5	1.5	3
26-45	5	2	4
46-65	6	2.5	4.5
66-85	7	3	5.5
86-100	8	3	6
101-125	8.5	3.5	6.5
126-175	9.5	4	7
176-275	10.5	4	8
276-425	12	5	9
426-625	13	5.5	9.5
626-875	14	5.5	10.5
876-1175	15	6	11
1176-1550	17	7	12.5
1551-2025	18	7	13.5
2026-2675	19	7.5	14
2676-3450	20	8	14.5
3451-4350	21	8	15.5
4351-5450	22	8.5	16
5451-6800	23	9	16
6801-8500	24	9	17.5
8501-10700	25	9.5	18
10701-12225	26	10	18.5
12226-13970	27	10	19
13971-15715	28	10.5	20
15716-17460	29	11	20.5
17461-19205	30	11	21
19206-20950	31	11.5	22
20951-22695	32	11.5	22.5
22696-24440	33	12	23
24441-26185	34	12.5	24

NOTE 1: For sites with employees greater than 26185, follow the progression in Table 8.

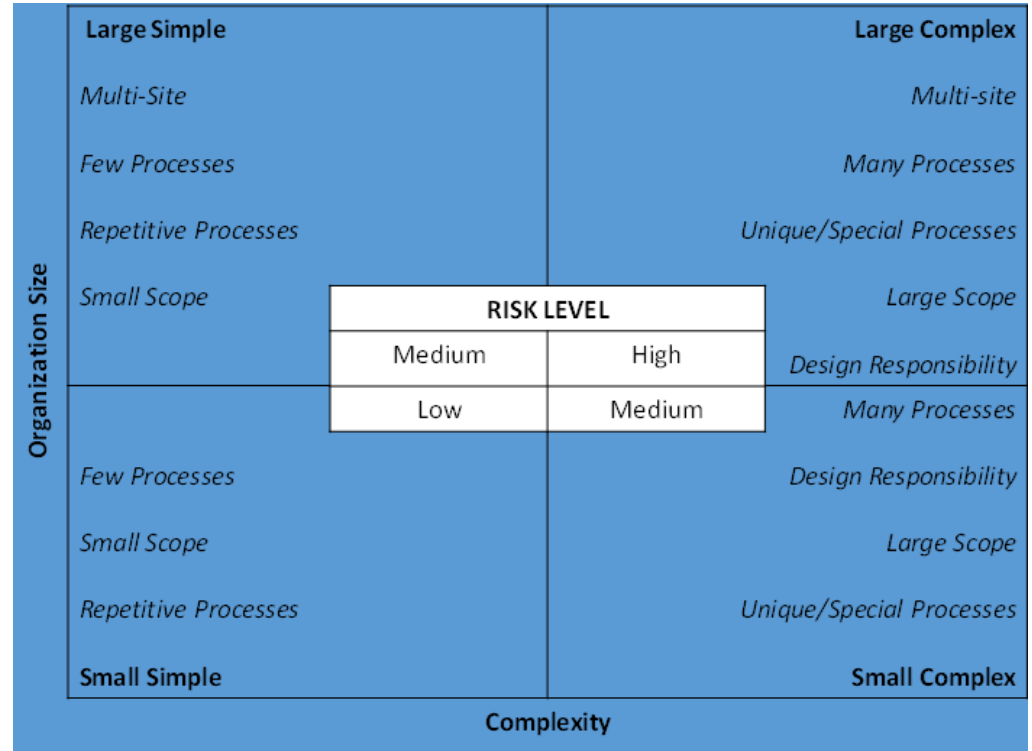
NOTE 2: If the annual surveillance is performed in multiple audits, the total annual surveillance audit duration still applies.

ORGANISATION RISK ASSESSMENT – RISK ANALYSIS ADJUSTMENT (CONT.)

Complexity

The complexity of the organization and its management system

(Ref IAF MD 5 and 9104/1A Figure 2)



Performance-based elements

- On-time delivery
- Conformity of delivered product or service (e.g. escape rate)
- Customer satisfaction
- AQMS PEAR level from last audit

Table 6 - Performance based elements risk analysis

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

ORGANISATION RISK ASSESSMENT – RISK ANALYSIS ADJUSTMENT (CONT.)

Internal audit programme

Table 5 - Internal audit program risk analysis

Internal Audit Program	Risk	Characteristics
High Performing Audit Program	Low	<ul style="list-style-type: none"> - Properly resourced audit program - Multi-event audit program, audit full QMS annually - Audit program driven by risk and data - Effective corrective action program
Average Audit Program	Medium	<ul style="list-style-type: none"> - Limited resources for audit program - Internal audit is an annual event - Full QMS is covered annually - Conforming corrective action program
Low Performing Audit Program	High	<ul style="list-style-type: none"> - Audit program is not properly resourced - Primarily desk top audits - Audit program does not prevent major nonconformities from third party audits - Full QMS not covered annually - Ineffective corrective action program

ORGANISATION RISK ASSESSMENT – RISK ANALYSIS ADJUSTMENT (CONT.)

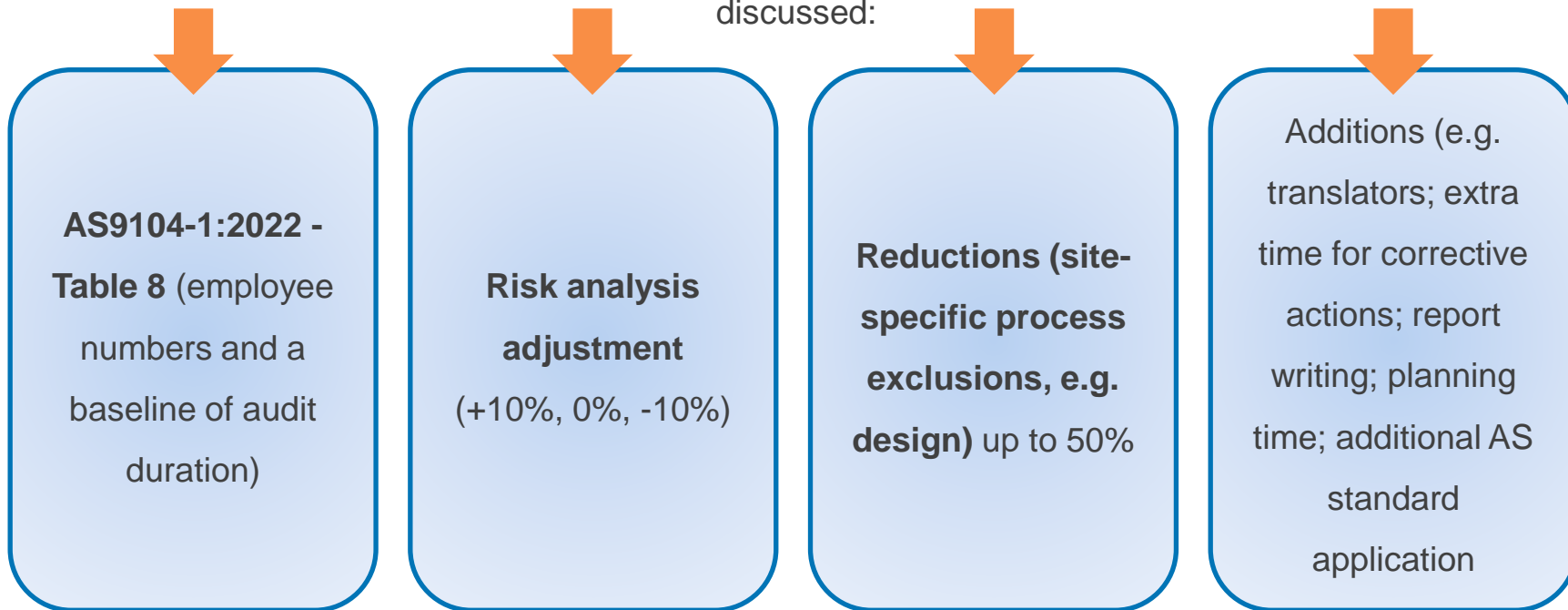
- Complexity
- Internal audit
- On-time delivery
- Conformity of delivered product or service (e.g. escape rate)
- Customer satisfaction
- AQMS PEAR level from last audit

Organization Risk Assessment					HIGH
Performance Based Element	DATA SOURCE	LOW (1)	MED (3)	HIGH (6)	LOW/MED/HIGH
Complexity	Figure 2	Low	Med	High	HIGH
Internal Audit	Table 5	Low	Med	High	MED
On-time Delivery	Organization	Exceeds	Meets	Below	HIGH
Conformity of delivered product or service (e.g., Item Escape Rate)	Organization	Exceeds	Meets	Below	HIGH
Customer Satisfaction	Organization	Exceeds	Meets	Below	LOW
AQMS Process Effectiveness from Previous Audit Report	PEARs	5	3-4	1-2	MED
Variables identified as high risk should drive audit planning activities (e.g. High risk related to External Provider Performance would require the associated process to be audited during surveillance.)				Risk Number	25

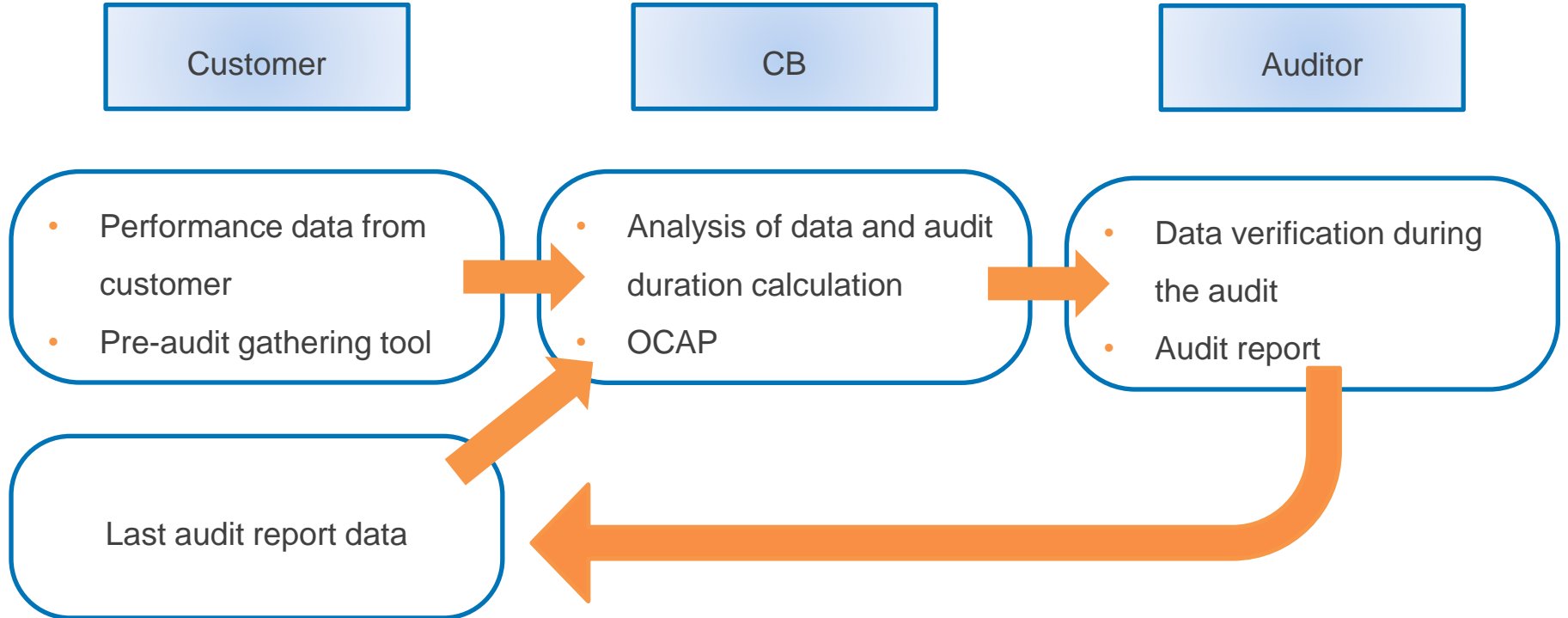
OUTPUT OF THE OCAP TOOL

All of the information gathered is then used to calculate the overall audit duration using the inputs

discussed:



OCAP PROCESS CYCLE



OCAP PROCESS CYCLE

The latest version can be found here:

<https://oasishelp.iaqg.org/91042022-series-and-91012022-transition/>

Or via link on OASIS main page:



Microsoft Excel
Worksheet

Welcome to International Aerospace Quality Group

Online Aerospace Supplier Information System (IAQG-OASIS). If you are working in the aerospace industry, involved in aerospace supplier selection and surveillance, this is your reliable source for aerospace supplier certification and registration data.

This online resource contains a list of suppliers who are certified / registered under the IAQG rules to be in compliance with the aerospace quality management system requirements (9100 series). This resource also contains all bodies involved in the process (i.e. National Accreditation Bodies, Certification Bodies and Authenticated Aerospace Experienced Auditors).

Personal information can be seen or modified using the menu on top.

9104-1:2022, 9104-2:2023 and 9101:2022 Transition

The IAQG is pleased to announce that the IAQG ICOP certification scheme transition to 9104-1:2022 and 9101:2022 standards, and the soon to be published 9104-2:2023 standards, has started.

Please click on [9104:2022, 9104-2:2023, and 9101:2022-transition](#) Information link to get the latest IAQG Certification Oversight Team Information.

NEW Supplemental Rule (SR) 004 is now updated to Revision B dated December 7, 2022

HOW WILL THIS AFFECT ME?

Using information provided by your organisation prior to the audit (which is reviewed along with previous audit reports), the tool will **ensure that the length of the audit is commensurate** with the:

- Effectiveness of your quality system
- Complexity of your organisation
- Level of customer satisfaction

This new standard will also ensure that auditor(s) are afforded sufficient time to **properly plan** for the audit, **document the audit results** and **conduct any post-audit activities**.



In short, the audit calculation and duration will accurately reflect what you do.

NEXT STEPS - NQA

NQA transitions to this new standard **within 12 months of the training being released**
(i.e. by 10th January 2024).

Auditors complete the **mandatory AS9104-1:2022/AS9101:2022 training**.

We conduct an **Organisation Certification Analysis Process (OCAP) review** for all certified clients before auditing them to the 9104-1:2022 and 9101:2022 criteria.

Campus, several site and complex-structure clients are made aware that they will become **multiple-site** companies. NQA to complete a **special visit audit** for those companies.

NEXT STEPS - CUSTOMERS

Information gets **posted on the NQA website** regarding the transition and relevant updates.



Blogs are published on the **NQA website and social media, alongside InTouch** (our monthly e-zine).



The auditor for your organisation reaches out to discuss the **requirements for your next audit once transitioned.**



The **Data Gathering Form** is issued and the **OCAP tool** is completed.



Audit is conducted, with a **new certificate referencing the updated standard.**



FURTHER SUPPORT

Call:

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Website:

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Email:

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Blogs:

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SUSTAINABILITY COMMITMENT

NQA is committed to leading by example in our industry by channelling sustainability and improving environmental performance throughout the business.

- Operating as carbon neutral under the internationally-recognised standard PAS 2060:2014
 - *Inclusive of all relevant scope 1, 2 and 3 emissions*
- An ambitious goal to become net zero by 2035
- A sustainability promise to address wider sustainability topics
- Driving down service delivery-related emissions to support clients on their net zero journeys



The delivery of NQA services, including training, will be carbon neutral.





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Q&A



THANK YOU!

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