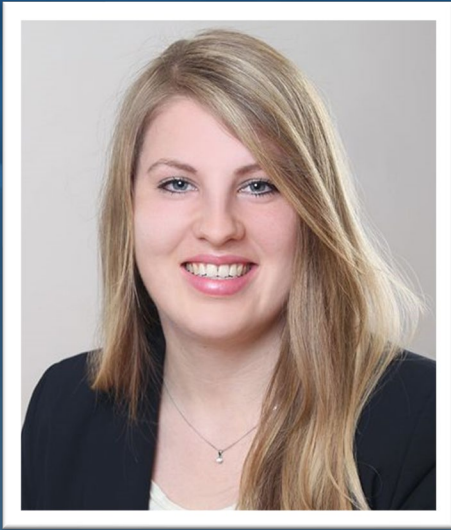


RISK BASED AUDIT SYSTEM – INTERNAL AND SUPPLIER



LISA STÖMER
AUDIT MANAGEMENT
MTU AERO ENGINES AG (MUNICH)

Agenda

Requirements of AS13100 in relation to „Risk“

Requirements of RM13005 in relation to „Risk“

Implementation of a Risk Based Audit System

MTU's way to Risk Based Supplier Audits

Outlook – Challenges and Opportunities



Requirements of AS13100 in relation to „Risk“

Search for „risk“ results in 92 (AS13100) and 34 (RM13005) hits

Risk (EN9000)
= Effect of uncertainty

(Note 5 to entry: The word “risk” is sometimes used when there is the possibility of only negative consequences.)

AS13100

9.2 Internal Audit

[...] The frequency of audits shall be reviewed and be increased, if required, due to process changes, quality performance, or risk.

8.4.2.5 Supplier Surveillance - Supplemental Requirements

The organization shall perform supplier risk assessments, which, at a minimum, include evaluation of results of supplier’s internal audits, supplier’s current quality performance, and part complexity.

The organization shall establish and execute appropriate surveillance methods to monitor supplier systems, processes, and products based on the risk evaluations.

Requirements of RM13005 in relation to „Risk“

RM13005 – Quality Audit Requirements

Introduction

[...] *This guideline defines the process requirements to be used by organizations to establish a procedure to implement, manage and perform effective and risk based internal and supplier surveillance audit program.*

- Audit program based on risk assessments
- Use risk prioritization tools
- Based on the risk evaluation, mitigate the risks by an appropriate response
- One of the risk mitigation activities can be an audit
- Develop risk assessments that cover Quality Management System, Production Processes, Special Processes & Product Conformity

Implementation of a Risk Based Audit System

MTU intent is a „Risk Minimizing Audit System“

Audit type	Mandatory requirements AS13100	Risk based approach
Quality System Audits	Entire management system within 3 years	Element/area prioritized based on risk
Production Process Audits	Every production process within 3 years	Selection of part numbers, workstations etc. based on risk
Special Process Audits	All special processes annually	Selection of part numbers, workstations etc. based on risk
Product Audits	Annually	Selection of parts based on risk



Definition of risk criteria

MTU's way to Risk Based Supplier Audits



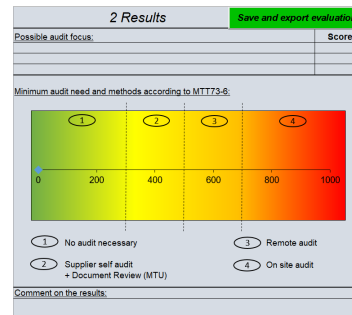
MTU's way to Risk Based Supplier Audits

Implementation of the risk based concept for supplier audits

Supplier Audit Risk Assessment Tool

Supplier Audit Risk Assessment Tool				
1 Evaluation				
Supplier name:	MTU Department:			
None of the criteria is applicable	Class 1	Direct Statement	Prime Source	Please fill in the applicable box(es)!
Supplier risk assessment				
Supplier risk assessment	Low	Intermediate	High	Comment
1. Last MTU supplier audit	Low	Intermediate	High	
Date of last audit performed at supplier by MTU (including requested Supplier Self Audit) Date of the audit report is due	Within 1 year	1-3 years ago	>3 years ago	
2. Results from last MTU supplier audit	Low	Intermediate	High	
Results from last MTU audit at the supplier	Good	Satisfactory (without Major Nonconformities)	Major/Minor Unacceptable Major Nonconformities	
3. Audit results from authorities and certifying offices	Low	Intermediate	High	
Official authorisation in QMS (ISO16949/AS9100 certifying audit results according to VDA10-2008 tests)	Present		Absent	
4. Internal audit system from the supplier	Low	Intermediate	High	
Quality of internal audit system: audit program, auditor				

Assessment Result: Audit Needs



Data Processing

Customer	Eventual	Prime Source	Class 1	Board Member	None of the criteria	Results	Score
Supplier 1	140	yes	no	no	None	10.12.2021	0
Supplier 1	115	no	no	no	None	06.12.2021	0
Supplier 1	115	no	no	no	None	07.12.2021	0
Supplier 2	94	no	no	no	yes		
INDUSTEC	173	no	no	no	yes		
Praesent	100	no	no	no	no		
Praesent	100	yes	no	no	no	01.01.2022	
Leitzing Turbinentechnik GmbH	364	yes	yes	no	no	Kornelia Köppl, TÜV	05.01.2022
Leitzing (Chairman) Ltd	114	yes	no	no	no	Kornelia Köppl, TÜV	05.01.2022
Parker (200068)	284	no	no	no	yes	PS FG	18.01.2022
Parker (200068)	284	no	no	no	yes	PS FG	18.01.2022
Landes Nurnberg 48239 / 41200	210	yes	no	no	no	Richard Willstättinger	17.01.2022
Lisa Aerospace Partnership	203	no	no	yes	no	Vincent PAVARD	20.01.2022
Lisa Aerospace Partnership	157	no	no	yes	no	Vincent PAVARD	20.01.2022
TAL	810	no	no	no	yes		
NW Precision - Toronto	1000	no	yes	no	no	Daniel Heidingfelder, TGA	25.01.2022
NW Precision - Toronto	1000	no	yes	no	no	Daniel Heidingfelder, TGA	25.01.2022
NW Precision - Toronto	1000	yes	no	no	no	Daniel Heidingfelder, TGA	25.01.2022
test	1000	yes	yes	no	no		
test	1000	yes	yes	no	no		
test	1000	yes	yes	no	no		
Turbine jet	805	no	no	yes		UTA Junges, Perth, Brueger	24.01.2022
Turbine jet	805	no	no	yes		aniel Heidingfelder, TGA	25.01.2022
NW Precision - Toronto	1000	no	yes	no	no	aniel Heidingfelder, TGA	25.01.2022
NW Precision - Toronto	1000	no	yes	no	no	aniel Heidingfelder, TGA	25.01.2022
NW Precision - Toronto	820	no	yes	no	no	aniel Heidingfelder, TGA	25.01.2022

Annual Audit Plan

Audit No.	Bezeichnung	Auditor	Suppliers Startdatum	Suppliers Enddatum	Auditor
3 Lieferantenaudits					
3.1 Lieferantenaudits 2021					
3.1.1 Lieferantenaudits TGA - FSP-Audits (Part/Engine Klasse TA)					
AU00000000000000000010	12017744 - B.C. - GMS	Lieferanten System und Prozessaudit	01.05.2021	31.05.2021	Heer Jürgen Krenzl
AU00000000000000000010	12017744 - B.C. - Maching	Lieferanten System und Prozessaudit	01.05.2021	31.05.2021	Heer Oliver Mohr
AU00000000000000000010	12017744 - B.C. - Maching	Lieferanten System und Prozessaudit	01.05.2021	31.05.2021	Heer Ulf Pasquel
AU00000000000000000010	12017744 - B.C. - Inspection	Lieferanten System und Prozessaudit	01.05.2021	31.05.2021	Heer Ralf Rosenkranz
AU00000000000000000010	12005577 - Bst Stewenck - GMS	Lieferanten System und Prozessaudit	01.05.2021	31.05.2021	Heer Felix Seiler
AU00000000000000000010	12005577 - Bst Stewenck - Maching	Lieferanten System und Prozessaudit	01.05.2021	31.05.2021	Heer Günther Jankow
AU00000000000000000010	12005577 - Bst Stewenck - Inspection	Lieferanten System und Prozessaudit	01.05.2021	31.05.2021	Heer Gerd Guder
AU00000000000000000010	12005577 - Bst Stewenck - Engineering	Lieferanten System und Prozessaudit	01.05.2021	31.05.2021	Heer Neus Uthmann
AU00000000000000000010	12005577 - Part - GMS	Lieferanten System und Prozessaudit	01.05.2021	31.05.2021	Heer Roman Palfinger
AU00000000000000000010	12005577 - Part - Maching 1	Lieferanten System und Prozessaudit	01.05.2021	31.05.2021	Heer Günther Jankow
AU00000000000000000010	12005577 - Part - Engineering	Lieferanten System und Prozessaudit	01.05.2021	31.05.2021	Heer Thomas Hummer
AU00000000000000000010	1201487 - TGA - GMS	Lieferanten System und Prozessaudit	01.05.2021	30.09.2021	Heer Günther Jankow
AU00000000000000000010	1201487 - TGA - Maching	Lieferanten System und Prozessaudit	01.05.2021	30.09.2021	Heer Günther Jankow
AU00000000000000000010	1201487 - TGA - Inspection	Lieferanten System und Prozessaudit	01.05.2021	30.09.2021	Heer Neus Uthmann
AU00000000000000000010	1201487 - TGA - Engineering	Lieferanten System und Prozessaudit	01.05.2021	30.09.2021	Heer Neus Uthmann
AU00000000000000000010	1201189 - Maching - GMS	Lieferanten System und Prozessaudit	01.05.2021	31.05.2021	Heer Daniel Heidingfelder
AU00000000000000000010	1201189 - Maching - Maching	Lieferanten System und Prozessaudit	01.05.2021	31.05.2021	Heer Ulf Pasquel
AU00000000000000000010	1201189 - Maching - Inspection	Lieferanten System und Prozessaudit	01.05.2021	31.05.2021	Heer Gerd Guder
AU00000000000000000010	1201189 - Maching - Engineering	Lieferanten System und Prozessaudit	01.05.2021	31.05.2021	Heer Gerd Guder
AU00000000000000000010	1201189 - Maching - GMS	Lieferanten System und Prozessaudit	01.05.2021	30.09.2021	Heer Gerd Guder
AU00000000000000000010	1201889 - NW - Maching	Lieferanten System und Prozessaudit	01.05.2021	30.09.2021	Heer Ulf Pasquel
AU00000000000000000010	1201889 - NW - Inspection	Lieferanten System und Prozessaudit	01.05.2021	30.09.2021	Heer Ralf Rosenkranz

- 16 risk criteria
- Focus on product quality
- Different characteristics and weightings

- Result categories (audit methods):
No audit - Supplier Self Audit – Remote Audit – On Site Audit
- Audit focus related to identified risks

- Automatic summary of all risk assessments
- Use synergies, e.g. one supplier for two commodities

- Centralized and resource optimized planning
- Early involvement of experts

Outlook – Challenges and Opportunities

RM13005 - Introduction

[...] Through this approach, it is anticipated that opportunities will be found to remove redundant audits across the supply chain and hence reduce the overall audit burden whilst improving its effectiveness.



Overall goal: Reducing the audit burdens by strengthening and using the supplier audit system

Focusing on „risk suppliers“

Evaluation regarding ethical and soft facts

Bring an „element of surprise“ to the audit

Thank you for your attention.

