TECHNICAL REPORT

ISO/TR 4450

First edition 2020-09

Quality management systems — Guidance for the application of ISO 19443:2018

èmes La pplication. Systèmes de management de la qualité — Lignes directrices pour





© ISO 2020

"mentation, no part of vical, including pluested from All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office CP 401 • Ch. de Blandonnet 8 CH-1214 Vernier, Geneva Phone: +41 22 749 01 11 Email: copyright@iso.org

Website: www.iso.org Published in Switzerland

Contents			
Fore	word		v
Intr	oductio	n	vi
1	Scon	e	1
2		native references	
3		ns and definitions	
4		ext of the organization	
	4.1	Understanding the organization and its context	
	4.2	Understanding the needs and expectations of interested parties	
	4.3	Determining the scope of the quality management system	
	4.4	Quality management system and its processes	
5		ership	
	5.1	Leadership and commitment	
		5.1.1 General 5.1.2 Customer focus	
		5.1.2 Customer focus 5.1.3 Nuclear safety culture	
	5.2	Policy	
	5.2	5.2.1 Establishing the quality policy	
		5.2.2 Communicating the quality policy	
	5.3	Organizational roles, responsibilities and authorities	3
6	Dlan	ning	
	6.1	Actions to address risks and opportunities	
	6.2	Quality objectives and planning to achieve them	
	6.3	Planning of changes	6
7	Sunn	oort	6
,	7.1	Resources	6
	, , , _	7.1.1 General	6
		7.1.2 People	
		7.1.3 Infrastructure	
		7.1.4 Environment for the operation of processes	7
		7.1.5 Monitoring and measuring resources	
	5 0	7.1.6 Organizational knowledge	8
	7.2	Competence Awareness	8
	7.3 7.4	Communication	
	7.4 7.5	Documented information	
	7.5	7.5.1 General	
		7.5.2 Creating and updating	
		7.5.3 Control of documented information	
8	Operation		
O	8.1	Operational planning and control	10
	0.1	8.1.1 Provisions for Counterfeit, Fraudulent or Suspect (CFS) items	
	8.2	Requirements for products and services	
		8.2.1 Customer communication	10
		8.2.2 Determination of requirements related for products and services	10
		8.2.3 Review of requirements related for products and services	10
		8.2.4 Changes to requirements for products and services	
	8.3	Design and development of products and services	
	8.4	Control of externally provided processes, products and services	
		8.4.1 General 8.4.2 Type and extent of control	
		8.4.3 Information for external providers	
		o	

ISO/TR 4450:2020(E)

	8.5	Production and service provision	12
		8.5.1 Control of production and service provision	12
		8.5.2 Identification and traceability	
		8.5.3 Property belonging to customers or external providers	
		8.5.4 Preservation 8.5.5 Post-delivery activities	
		8.5.6 Control of changes	
	8.6	Release of products and services	
	8.7	Control of nonconforming outputs	
9	Perfo	rmance evaluation	13
	9.1	Monitoring, measurement, analysis and evaluation	13
		9.1.1 General	
		9.1.2 Customer satisfaction	
		9.1.3 Analysis and evaluation	
	9.2	Internal audit	
	9.3	Management review	
		9.3.1 General Management review inputs	
		9.3.3 Management review outputs	
4.0			
10	1 mpro 10.1	vement General	
	10.1	Nonconformity and corrective action	
	10.2	Continual improvement	
Annex	A (info	ormative) Additional requirements of ISO 19443:2018 versus ISO 9001:2015	
	•	ormative) How to perform a risk analysis for the project?	
Annex	C (info	ormative) Determination of ITNS items and activities	22
Annex	D (info	ormative) Practical example of determination of ITNS items and activities	24
Annex	E (info	ormative) Typical (general) example for graded approach	27
Annex	F (info	ormative) Practical example of graded approach	29
Annex	G (info	ormative) Metrological guidelines	32
Annex	H (info	ormative) Competence and qualification	35
Annex	I (info	rmative) Awareness training for personnel	38
Annex		rmative) List of ISO 19443 additional requirements related to documented nation	42
Annex	K (info	ormative) Good practices for 8.3	45
		ormative) Demonstration of the evidence of provisions for monitoring activities	
Annex		ormative) Example of scheme for non-conformance information and request proval along supply chain	53
Biblio	graphy	7	54

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The relationship of ISO standards to the IAEA safety standards (http://www-ns.iaea.org/standards/) needs to be understood to avoid confusions.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www .iso .org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www .iso .org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by the Technical Committee ISO/TC 85, *Nuclear energy, nuclear technologies, and radiological protection* WG 4, *Management systems and conformity assessment.*

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www .iso .org/members .html.

Introduction

As general consideration, this guideline document:

- has been developed to assist users to apply the quality management system requirements of ISO 19443:2018 by organizations in the supply chain of the nuclear energy sector supplying products and services important to nuclear safety (ITNS)^[1],
- does not add to, subtract from, or in any way modify those requirements,
- does not prescribe mandatory approaches to implementation, or provide any preferred method of interpretation of ISO 19443:2018 requirements supplementing those of ISO 9001:2015^[2], but only provide examples of possible solutions an organization can implement to meet the requirements,
- proposes also good practices for some clauses of ISO 9001 when applied to ISO 19443.

Where there is no supplementary text to ISO 9001^[2] (refer also to Annex A which gives a global picture of additional requirements of ISO 19443:2018 versus ISO 9001:2015), the sentence "*No ISO 19443 additional requirement to ISO 9001*" has been included. In this case, for guidance on the initial text of ISO 9001, refer to:

- ISO 9001:2015^[2], Annex A,
- ISO/TS 9002^[3], and
- ISO/IAF Auditing Practices Group^[4].

Where it is considered that the added text is self-explanatory and thus no guidance has been added, the sentence "No supplementary guidance provided" has been included.

This guidance follows the layout of ISO 19443 and thus, users need to clearly understand the vocabulary of ISO 9000 and ISO 9001, which underlie it, before addressing the added text in ISO 19443.

The delivery of all products or services will involve tiers (See Figure 1) to which the Licensee requirements will be cascaded through Contractor(s) using technical specifications, procedures, management system (including Quality Assurance and Quality Control) requirements, and other contractual documents.

At each level, the external provider (called hereby "contractor", "supplier" or "sub-supplier") will be potentially in position to be "the organization" considered by ISO 19443.

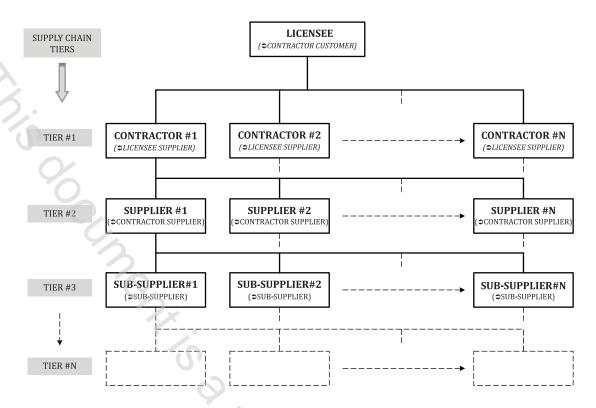


Figure 1 — Schematic breakdown of tiers.

0.1 General

No ISO 19443 additional requirement to ISO 9001.

0.2 Quality management principles

No supplementary guidance provided.

0/3 Process approach

No ISO 19443 additional requirement to ISO 9001.

0.4 Relationship with other management system standards

No supplementary guidance provided.

This document is a previous general ded by tills

Quality management systems — Guidance for the application of ISO 19443:2018

1 Scope

This document provides guidance on the implementation of the ISO 19443 requirements, with examples of possible steps an organization can take to meet the requirements.

It does not add to, subtract from, or in any way modify those requirements.

This document does not prescribe mandatory approaches to implementation, or provide any preferred method of interpretation.

2 Normative references

There are no normative references in this document.

No ISO 19443 additional requirement to ISO 9001.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at https://www.iso.org/obp
- IEC Electropedia: available at http://www.electropedia.org/

4 Context of the organization

4.1 Understanding the organization and its context

As part of risk-based thinking of ISO 19443:2018, 0.3.3, the organization should consider any risks and the nuclear safety implications to its activities.

Refer also to Annex B.

4.2 Understanding the needs and expectations of interested parties

No ISO 19443 additional requirement to ISO 9001.

4.3 Determining the scope of the quality management system

No ISO 19443 additional requirement to ISO 9001.

4.4 Quality management system and its processes

- **4.4.1** *No ISO* 19443 additional requirement to ISO 9001.
- **4.4.2** No ISO 19443 additional requirement to ISO 9001.