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## **CORRESPONDENCE MATRIX**

### **NQSA NSQ-100 version 0**

NUCLEAR SAFETY AND QUALITY MANAGEMENT SYSTEM – REQUIREMENTS

Model for quality management in design & development,  
manufacturing, erection, commissioning and related services

*VERSUS*

### **I.A.E.A GS-R-3 version 2006**

IAEA SAFETY STANDARDS

The management system for Facilities and Activities - Safety Requirements



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## FOREWORD

The objective of this document is to examine each “IAEA - GS-R-3” requirement and identify the comparables paragraphs of “NQSA - NSQ-100”.

## 0. INTRODUCTION

### 0.1. General

The purpose of NSQ-100 is to address quality management in product design & development, manufacturing, erection, commissioning and related services.

The GS-R-3 standard has a wider scope which includes:

- Nuclear facilities;
- Activities using sources of ionizing radiation;
- Radioactive waste management;
- The transport of radioactive material;
- Radiation protection activities;
- Any other practices or circumstances in which people may be exposed to radiation from naturally occurring or artificial sources;
- The regulation of such facilities and activities.

Some of the requirements addressed to “senior management” in GS-R-3 are sometimes addressed to the “organization” in ISO 9001:2008.

### 0.2. Correspondence Matrix

When a considered NSQ-100 chapter is referred to, it has to be understood as “NSQ-100 requirements for considered chapter **and** ISO 9001:2008 requirements for the same chapter”, those requirements being sometimes clarified in the corresponding chapter of the NSQ-100 Guidelines.

The points 1.1 to 1.7 (Background chapter) are not requirements but general introductory wording, therefore, they have not been put in the matrix.



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### 1. CORRESPONDENCE MATRIX

GS-R-3			NSQ-100	Comments
REQUIREMENT	CHAPTER	§	CHAPTER(S)	
1	OBJECTIVE	1.8	FOREWORD 0 - INTRODUCTION 1 – SCOPE 4 – QUALITY MANAGEMENT SYSTEM 6 – RESOURCE MANAGEMENT 7 – PRODUCT REALIZATION 5 – Management responsibility	Health, environmental, security and economic aspects are taken into account in chapters 4.1.1, 6.4, 7.1 a), 7.1.1 and 7.1.2 of NSQ-100.
		1.9		/
	SCOPE	1.10		GS-R-3 scope is wider than NSQ-100 scope which is limited to product design & development, manufacturing, erection, commissioning and related services.
		1.11		Transient and emergency situations are not relevant for product realization. Siting, operation and decommissioning phases are not relevant for product realization.
		1.12		Health, environmental, security and economic aspects are taken into account in chapters 4.1.1, 6.4, 7.1 a), 7.1.1 and 7.1.2 of NSQ-100.
		1.13		
	STRUCTURE	1.14		None
2	GENERAL REQUIREMENTS	2.1	4.1 General requirements	GS-R-3 scope is wider than NSQ-100 scope which is limited to product design & development, manufacturing, erection, commissioning and related services.
		2.2	4.2.2 Quality manual 5.1 Management commitment 5.2 Customer focus	§ 4.2.2 indicates that regulations must be taken into account and regulations address safety aspects as paramount and mandatory aspects.
		2.3	1.1 General 4.2.2 Quality manual 7.2.1 Determination of requirements related to the product	"Other IAEA Safety Requirements Publications" than GS-R-3 are not taken into account in NSQ-100.
		2.4	5.6 Management review 8.2 Monitoring and measurement	
	SAFETY CULTURE	2.5	4.1.1 Nuclear safety culture	
	GRADING THE APPLICATION OF MANAGEMENT SYSTEM REQUIREMENTS	2.6	4.1.2 Classification of items and activities	
		2.7	4.1.3 Grading the application of quality requirements	
	DOCUMENTATION OF THE MANAGEMENT SYSTEM	2.8	4.1 General requirements 4.2.1 General 4.2.2 Quality manual	
		2.9	4.2.1 General 4.2.3 Control of documents	
		2.10	4.2.1 General 4.2.2 Quality manual	



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GS-R-3			NSQ-100		Comments	
REQUIREMENT	TITLE	§	CHAPTER(S)			
3	MANAGEMENT COMMITMENT	3.1	5.1	Management commitment		
			6.1	Provision of resources		
		3.2	5.1	Management commitment		
		3.3	5.3	Quality policy		
			5.5.3	Internal communication		
		3.4	5.3	Quality policy		
		3.5	4.1	General requirements		
			5.5.1	Responsibility and authority		
		SATISFACTION OF INTERESTED PARTIES	3.6	5.2	Customer focus	
		ORGANIZATIONAL POLICIES	3.7	5.3	Quality policy	
		PLANNING	3.8	5.4	Planning	
			3.9	4.1.1	Nuclear safety culture	Refer to above comments for requirement 1.8 of GS-R-3
				5.4	Planning	
			3.10	5.4.1	Quality objectives	
		3.11	5.4.2	Quality management system planning		
	RESPONSIBILITY AND AUTHORITY FOR THE MANAGEMENT SYSTEM	3.12	5.	Management responsibility		
		3.13	5.5.2	Management representative		
		3.14	5.5.1	Responsibility and authority		
4	PROVISION OF RESOURCES	4.1	6.1	Provisions of resources		
		4.2	6.1	Provisions of resources		
	HUMAN RESOURCES	4.3	6.2	Human resources		
		4.4	4.1.1	Nuclear safety culture		
		6.2.2	Competence, qualification, training and awareness			
INFRASTRUCTURE AND THE WORKING ENVIRONMENT	4.5	6.3	Infrastructure			
		6.4	Work environment			
5	DEVELOPPING PROCESSES	5.1	4.1	General requirements		
			7.1	Planning of product realization		
		5.2	4.1	General requirements		
		5.3				
		5.4	7.1	Planning of product realization	Refer to above comments for requirement 1.8 of GS-R-3 and also to § 7.2.1 c) and 7.3.1 of NSQ-100	
		7.2	Customer-related processes			
		7.3	Design and development			
		5.5	7.1.1	Project management		
	PROCESS MANAGEMENT	5.6	4.1	General requirements		
5.7		7.3.5	Design and development verification			
		7.3.6	Design and development validation			
		7.5.1	Control of production and service provision			
5.8	7.5.2	Validation of processes for production and service provision				
	8.2.3	Monitoring and measurement of processes				



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GS-R-3			NSQ-100	Comments	
REQUIREMENT	TITLE	§	CHAPTER(S)		
	PROCESS MANAGEMENT	5.9	7.5.1 Control of production and service provision		
			7.5.2 Validation of processes for production and service provision		
	8.2.3 Monitoring and measurement of processes				
			5.10	4.1 General requirements	
				7.5.1 Control of production and service provision	
	GENERIC MANAGEMENT SYSTEM PROCESSES		5.11	None	<i>§ 5.11 is only an introducing paragraph</i>
			5.12	4.2.3 Control of documents	
			5.13	6.2 Human resources	
			5.14	4.2.3 Control of documents	
			5.14	7.2.2 Review of requirements related to the product	
			5.15	7.3.5 Design and development verification	
				7.3.6 Design and development validation	
			5.15	7.6 Control of monitoring and measuring equipment	
				8.2.4 Monitoring and measurement of product	
			5.16	8.2.4 Monitoring and measurement of product	<i>The requirement "and shall ensure that products performs satisfactorily in service" is not relevant to NSQ-100 purposes.</i>
			5.17	7.1 Planning of product realization	
			5.18	7.5.1 Control of production and service provision	
			5.19	7.5.3 Identification and traceability	
			5.20	7.5.5 Preservation of product	
				7.5.5 Preservation of product	
	5.21	4.2.4 Control of records			
	5.23	7.4.1 Purchasing process			
	5.24	7.4.2.1 Content of the procurement documents			
	5.25				
	5.26	5.5.3 Internal communication			
	5.27	5.5.4 Communication with Regulatory Bodies			
	5.28	5.4.2 Quality management system planning			
	5.29				
6	MONITORING AND MEASUREMENT	6.1	4.1 General requirements		
	SELF-ASSESSMENT	6.2	5.1 Management commitment		
	INDEPENDENT ASSESSMENT	6.3			
		6.4	8.2.2 Internal audits		
		6.5			
	MANAGEMENT SYSTEM REVIEW	6.6	5.6 Management review		
		6.7			
		6.8	5.6 Management review		
		6.9			
		6.10			



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GS-R-3			NSQ-100	Comments
REQUIREMENT	TITLE	§	CHAPTER(S)	
6	NON-CONFORMANCES AND CORRECTIVE AND PREVENTIVE ACTIONS	6.11	8.5.2 Corrective actions 8.5.3 Preventive actions	
		6.12	8.3 Control of non conforming product	
		6.13		
		6.14	8.5.2 Corrective actions 8.5.3 Preventive actions	
		6.15	5.6 Management review	
		6.16	8.5.3 Preventive actions	
	IMPROVEMENT	6.17	5.6 Management review	
		6.18	8.5.3 Preventive actions	