Draft General Safety Requirements DS456 "Leadership and Management for Safety" (Version dated 26 January 2015)
Status: STEP 10 – Member States comments incorporated

Note: Blue parts are those to be added in the text. Red parts are those to be deleted in the text.

Relevance	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			COMMENTS BY REVIEWER Reviewer: **Sandra Geupel** Country/Organization: **Germany/GRS on behalf of the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB)**	Page 1 of Date: 2015-03-09	**RESOLUTION**			
3	1	Contents	"… 1. INTRODUCTION 2. RESPONSIBILITY FOR SAFETY 3. LEADERSHIP FOR SAFETY 4. MANAGEMENT FOR SAFETY 5. CULTURE FOR SAFETY …"	Missing section in the table of contents.	YES-corrected			
3	2	Footnotes No. 1–13	Note: All the footnote numbers cited in the text of the draft document are not given in superscript form.	Loss of formatting once the 'marked up' version has been converted into the 'clean' version.	YES – will be resolved in final editing			
3	3	1.1	4th sentence: "It builds on the concepts of. GS-R-3 and emphasizes that …"	Editorial (surplus punctuation mark).	YES			
2	4	1.2	1st sentence: "Management systems designed to fulfil the requirements of this Safety Requirements publication integrate safety, health, environmental, security, quality, societal and economic elements."	Ensuring consistency with Requirement 7 as well as with Para 4.16 (b), both referring to societal elements. Societal elements, such as communication with the public and other interested parties,	YES			

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				should also be con-sidered in the man-agement system.				
3	5	1.4 (b)	"… This includes establishing a management sys-tem so as to achieve the highest standards of safety that can reasonably be achieved [1], and develop-ing and maintaining a strong safety culture to en-sure that there are organizational and individual commitments to giving safety issues the attention warranted by their significance."	Grammar.	YES			
2	6	1.8	"The requirements in this publication apply to all types of facilities and activities that give rise to radiation risks, as follows: … (d) Facilities and activities for the management and for the (including disposal) of radioactive waste such as the discharge of effluents; and some aspects of the remediation of sites af-fected by residues residual radioactive materi-al from past activities;" … (h) The decommissioning (or closure) of facili-ties."	Bullet (d): According to the IAEA Safety Glos-sary (2007 Edition), the term 'radioactive waste management' encompasses all ad-ministrative and op-erational activities involved in the hand-ling, pretreatment, treatment, condition-ing, transport, stor-age and disposal of radioactive waste. In addition, it is pro-posed to replace 're-sidues' by 'residual radioactive material' to be more specific. Bullet (h): For radioactive waste disposal facilities, the term 'closure' instead of 'decom-missioning' is used. According to Bullet	YES			

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				(d), GSR Part 2 will also apply to disposal facilities.				
3	7	1.10	1st sentence: "This publication is applicable to organizations (registrants and licensees) throughout the lifetime of facilities and for the entire duration of activities, for all operational states and for accident conditions, and in a nuclear or radiological emergency."	To improve wording.	YES			
3	8	1.11	1st and 2nd sentence: "This publication establishes requirements for managing the fulfilment of other requirements in an integrated manner. ~~This publication~~ It does not establish specific requirements in relation to nuclear safety, radiation protection, protection of the environment, quality management or quality assurance, nuclear security, or societal and economic requirements and recommendations."	To improve wording.	YES			
3	9	Req. 2, 5.5	Note: Requirement 2 refers to the interactions between human, technology and the organization (HTO). On the other hand, Para 5.5 refers to the interactions between individuals, technology and the organization (ITO).	Irrespective of the statement in Footnote No. 12 to Para 5.5, harmonization of terminology used in GSR Part 2 is recommended.	YES			
2	10	2.1	"Senior management of organizations shall be responsible, as appropriate, for: (a) Ensuring the safe~~;~~ siting and site evaluation, design, construction, commissioning, operation and decommissioning (or closure) of facilities. … … (d) Ensuring that ~~M~~managers at all levels in the organization develop an understanding of ~~their~~ radiation risks and their potential consequences, and of how to manage radiation risks.	Bullet (a): For justification, see comment on Para 1.8 (h). Bullet (d): In the present sentence construction, the possessive adjective 'their' in front of 'radiation risks' is misleadingly related to the managers,	YES			

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			(e) Ensuring the provision for adequate resources and funding for the long term management ~~and~~ (including disposal) of radioactive waste, … (f) Ensuring that arrangements are made in preparedness for an effective response in the event of a nuclear or radiological emergency, and establishing arrangements for the management of severe accidents."	even though it is apparent from the context that 'their' should in fact relate to 'facilities and activities'. Please delete 'their' to avoid unintended distortion of meaning. Bullet (e): For justification, see comment on Para 1.8 (d). Bullet (f): There is a missing bullet in the text after (e). The last statement is the direct continuation of the introducing phrase and cannot be understood in an isolated manner.					
3	11	3.1 (d)	"Establish and communicate that the policy on safety is an overriding priority~~.~~ of the organization, in accordance with …"	Editorial (surplus punctuation mark).	YES			
2	12	3.1 (g)	"Develop and maintain leadership competences at all levels in the organization. This shall include competences for leadership in dealing with ~~severe incidents~~ and accidents as well as ~~or~~ with unexpected events~~;~~."	Clarification. The term 'severe incidents' could be misleading and be confused with accidents. Moreover, the term is used neither in the IAEA Safety Glossary (2007 Edition) nor in the	YES-revision agrees with IEC.			

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				"INES: International Nuclear and Radio-logical Event Scale Users' Manual" (2008 Edition). Consequently, it is proposed to replace 'severe incidents' by 'incidents and acci-dents'.				
2	13	3.2	"Senior management, by means of sharing feed-back on and learning from successes, strengths and weaknesses, shall develop an organization that is able to appropriately respond to severe incidents and accidents as well as to or severe unexpected events."	For justification, see comment on Para 3.1 (g). For ensuring consistency with the statement in Para 3.1 (g), it is proposed to delete 'severe' in front of 'unexpected events'.	YES-revision agreed with IEC			
2	14	after 3.4	3.5 **Requirement 3: Demonstration of leadership for safety by managers at all levels.** 3.6 **Managers at all levels in the organiza-tion shall demonstrate leadership for safety in application of the manage-ment system and in the fostering of a strong safety culture. Managers at all levels in the organization shall demon-strate leadership for safety, including commitment to the establishment, and continuous improvement of the man-agement system.** 3.7 3.5 Managers at all levels in the organization shall ensure that their leadership in-cludes:	Wrong formatting of Req. 3 and erroneous numbering of subse-quent paragraphs in Section 3.	YES			

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			3.8 a) The involvement of teams and individuals in the organization in the application and continuous improvement of the management system to ensure safety;					
			3.9 b) Adherence to the management system and shall advocate individual and institutional values and expectations for safety throughout the organization by means of their decisions, statements and actions.					
			3.10 3.6 Managers at all levels in the organization shall actively seek information on safety related performance within their area of responsibility, shall share this information within the organization and shall demonstrate commitment to improving safety related performance. Managers at all levels in the organization shall ensure that their actions serve to encourage the reporting of safety related issues and to oppose acts or conditions adverse to safety.					
			3.11 3.7 Managers at all levels in the organization shall support and encourage all individuals to achieve their work goals safely. They shall engage them in enhancing safety related performance and shall communicate the basis of safety related decisions.					
3	15	4.44	"The causes of non-conformances, events and safety related issues that arise shall be determined and the potential consequences shall be evaluated. Corrective actions for eliminating the causes of non-conformances and preventive actions to prevent avoid the recurrence of the same or similar events or safety related issues from arising shall be	The Safety Guide NS-G-2.11 "A System for the Feedback of Experience from Events in Nuclear Installations" differentiates between	YES			

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			determined and shall be taken in a timely manner. The status and effectiveness of all corrective actions and preventive measures taken shall be monitored and shall be reported to management at an appropriate level in the organization."	'corrective actions' and 'preventive actions'. Modify wording to be in line with the terminology used in the first sentence of Para 4.44 as well as with the one in NS-G-2.11.				
3	16	4.50	1st and 2nd sentence: "… with account taken of new requirements and changes in the organization. This review and subsequent improvements …"	Editorial (missing punctuation mark).	YES			
3	17	Section 5	~~5.2.1~~ 5.1 Attitudes and behaviours that contribute to a strong safety culture shall be specified and developed through use of the leadership and management system. ~~5.3~~ 5.2 All individuals in the organization shall contribute to fostering and supporting a strong safety culture, … …	Wrong numbering of paragraphs. Renumbering of paragraphs in Section 5 is required.	YES - formatting to be resolved in final edit			
3	18	Footnote No. 12 to Para 5.5	"Individuals, technology, and organization (ITO) term has been used to keep continuity with the previous standard, but is the same as the older term Man, technology and organization (MTO) and the same as the newer Human, technology and organization (HTO) term~~s~~."	Editorial.	Yes – edited and footnote added to explain the evolution of the terms MTO/ITO/HTO			Using HTO throughout document
3	19	List of references	Note: The references [29] – [35] (international conventions and codes of conducts) are not cited in the	All those documents which have been consulted and served	Advice taken and will			

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			text of the draft document. Perhaps it was omitted to include a proper citation in Para 1.11 where all other references are quoted.	as a basis for developing GSR Part 2 should be quoted systemically in the text.	be resolved in final publication editing.		
3	20	List of references	Note: As stated in Para 1.8, the requirements in GSR Part 2 apply to all types of facilities and activities that give rise to radiation risks. Having this in mind, it remains unclear why Para 1.11 provides a reference to the Safety Guide GS-G-3.5 "The Management System for Nuclear Installations" [15], but omits the references to the corresponding Safety Guides GS-G-3.3 "The Management System for the Processing, Handling and Storage of Radioactive Waste", GS-G-3.4 "The Management System for the Disposal of Radioactive Waste", and TS-G-1.4 "The Management System for the Safe Transport of Radioactive Material". This remains valid also in view of the fact that the revision and combination of GS-G-3.3 and GS-G-3.4 in DS477 have already been initiated. The Safety Guide GS-G-3.2 "The Management System for Technical Services in Radiation Safety" will be superseded in the near future by DS453 "Occupational Radiation Protection". DS453 has finally been approved by the Safety Standards Committees and is currently under review by the Commission on Safety Standards (CSS) for endorsement at its 37th meeting in April 2015.	In order to prevent arbitrariness in citations of related Safety Guides, either add GS-G-3.3, GS-G-3.4 and TS-G-1.4 to the list of references, or remove GS-G-3.5 from the list so that solely the generic guidance provided in GS-G-3.1 "The Management System for Facilities and Activities" is referred to.	Reference list to be updated.		

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Relevance	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
COMMENTS BY REVIEWER — Reviewer: **Buglova** — Country/Organization: IAEA — Date: 2015-03-19 — Page 1 of					RESOLUTION			
	1	all	Three paragraphs of the text emphasize the responsibility for and leadership in EPR. The issue is that they stress severe accidents/incidents in this regard instead of any nuclear or radiological emergency without being clear why. The following changes are needed:		See below			
			The last bullet of paragraph 2.1 should end after emergency. The arrangements for the management of severe accidents are covered with the first part of the sentence. In addition, reference to GSR Part 7 should be added for clarity of what arrangements actually it refers to.	Three paragraphs of the text emphasize the responsibility for and leadership in EPR. The issue is that they stress severe accidents/incidents in this regard instead of any nuclear or radiological emergency without being clear why	Reference will be added in final review revision of references			
			Paragraph 3.1 (g) should refer to nuclear or radio-	Three paragraphs of the text emphasize	Re-worded			

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				logical emergency instead of severe incidents.	the responsibility for and leadership in EPR. The issue is that they stress severe accidents/incidents in this regard instead of any nuclear or radiological emergency without being clear why	and agreed with IEC.			
				In addition, there are several issues with the paragraph 3.2. 'Senior management, by means of sharing feedback on and learning from successes, strengths and weaknesses, shall develop an organization that is able to respond to severe incidents or severe unexpected event.' that require its rewording:	Three paragraphs of the text emphasize the responsibility for and leadership in EPR. The issue is that they stress severe accidents/incidents in this regard instead of any nuclear or radiological emergency without being clear why	Re-worded and agreed with IEC.			
				- First, it gives impression that 'by means of sharing feedback on and learning from successes, strengths and weaknesses' is what it takes to establish such an organization and without taking into account existing Safety Standards, GSR Part 7 primarily;	Three paragraphs of the text emphasize the responsibility for and leadership in EPR. The issue is that they stress severe accidents/incidents in this regard instead of any nuclear or radiological emergency without being clear why	Re-worded and agreed with IEC.			

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			- Second, it should refer to any nuclear or radiological emergency instead if severe incidents only.	Three paragraphs of the text emphasize the responsibility for and leadership in EPR. The issue is that they stress severe accidents/incidents in this regard instead of any nuclear or radiological emergency without being clear why	'severe incidents" phrase removed.		
			- Third, meaning of severe unexpected event needs clarification.	Three paragraphs of the text emphasize the responsibility for and leadership in EPR. The issue is that they stress severe accidents/incidents in this regard instead of any nuclear or radiological emergency without being clear why	Reworded in line with IEC wording – 'unexpected' changed to unanticipated.		
			Revised paragraphs need to be reviewed before the draft is posted to Committees for review (we made similar comments at the previous CC meeting and although they have been accepted at the meeting, it seems nobody is interested to address them in the draft).		Reviewed by IEC.		

TITLE

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COMMENTS BY REVIEWER					RESOLUTION			
Reviewer:			Page.... of....					
Country/Organization: POLAND			Date:					
Comment No.	Para/Line No.	Proposed new text		Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1.	General	Culture of safety is used at several places, but also safety culture is used. The differences between the two are not clear. When a new principle is introduced an introduction would be beneficial to understand the differences also for the users of GS-R-3. Even Chapter 5 is named "Culture for safety" but requirement 14 discusses safety culture.				The majority of text will be changed to Safety Culture as this is a well know phrase – However every organization has within its business a safety culture and it's the comparison with standards and improvement processes that identify whether the safety culture is strong enough to promote and support safe behaviors. The business culture has safety integrated within it but specific characteristics primarily support safety. DS456 specifically is focusing on what is required in management systems and the culture to support and promote safety no matter what management system management model and standard is applied eg ISO, ASME etc. This standard is not seeking to be a primary management system standard, but one that identified the		

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
					essential elements that need to exist inside a management system to promote and maintain safety in an organization's business..		
2.	2.1 d	Ensuring that Managers at all levels in the organization develop an understanding of the radiation risks and the potential consequences of those risks, and of how to manage the radiation risks.	Clarity	YES	Added "relevant to their responsibilities. So thast a grounding in radiation risk for all managers and understanding for the management of risk they can affect.		
3.	3.1 d,	That safety is an overriding priority should be avoided. The old wording that safety shall be paramount seems to better.	With the statement that safety should be an overriding priority, no activity or operation of an installation is allowed since every action will give raise to (although limited) decrease in safety. When safety is an overriding priority the activity should be stopped immediately. This might become a legal problem when GSR Part 2 will become a part of the legislation. Opposition parties can use this in court which might jeopardize operation.		Replaced by glossary description "which establishes that as an overriding priority, protection and safety issues receive the attention warranted by their significance."		
4.	3.4	Senior management shall ensure that there is timely and effective communication and consultation with formal recognised interested parties and shall ensure that relevant information is disseminated to them.	The shall statement here together with the definition of interested parties is a too strong requirement. With the shall statement this should be limited to the formal recognised		Re-drafted to identify that the organization should review and identify those that are 'interested parties' and have made deci-		

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		In order to address the second part a new para could be introduced: 3.4 a) Senior management shall implement provisions to actively communicate with professionals; scientific bodies; the media; the public (individuals, community groups and interest groups) and to disseminate relevant information to them. Formal recognised interested parties could be defined as: customers, owners, operators, employees, suppliers, partners, trade unions, the regulated industry or professionals; governmental agencies or regulators (local, regional and national) whose responsibilities may cover nuclear energy and other States, especially neighbouring States.	interested parties like customers, owners, operators, employees, suppliers, partners, trade unions, the regulated industry or professionals; scientific bodies; governmental agencies or regulators (local, regional and national) whose responsibilities may cover nuclear energy; the media; the public (individuals, community groups and interest groups); and other States, especially neighbouring States. This might become a legal problem when GSR Part 2 will become a part of the legislation. Opposition parties can use this in court which might jeopardise operation.		sions as to what communication (if any) should be part of the organizations management system..\\ "Senior management shall identify the 'interested parties' for their organisation and the appropriate strategy for interaction with them. Senior management shall ensure that there is appropriate timely and effective communication and consultation with interested parties[1] and shall ensure that relevant information is disseminated to them."		
5.	4.13	This seems to be a combination of all type of changes which make the text unclear. Propose to split the text to ensure proper understanding					Included all changes . brackets included to show that "changes" include cumulative and organiszational changes , but is not an exhaus-

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[1] Interested parties may include: customers, owners, operators, employees, suppliers, partners, trade unions, the regulated industry or professionals; scientific bodies; governmental agencies or regulators (local, regional and national) whose responsibilities may cover nuclear energy; the media; the public (individuals, community groups and interest groups); and other States, especially neighbouring States that have entered into agreements providing for an exchange of information concerning possible transboundary impacts, or States involved in the export or import of certain technologies or materials.

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COMMENTS BY REVIEWER				RESOLUTION			
Reviewer: Country/Organization: POLAND			Page.... of.... Date:				
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
							tive list eg equipment, procedure etc
6.	4.15	Should be limited to safety related conflicts		Yes			
7.	Requirement 8	It is proposed not to limit this to safety related aspects but include also at least security	Better encouragement for integration				Not included in DPP and graded approach for safety well established.
8.	4.17 b)	That safety is an overriding priority should be avoided. The old wording that safety shall be paramount seems to better.	See 3.1 d)		See above		
9.	4.17 e, g, h, i	Replace description by definition or specification by	Description gives the impression that written text is required, while for example the tasks and responsibilities can be clearly defined in flowcharts				Documentation is a term that encompasses alternative ways of providing details or information about something
10.	4.23	Senior management shall make arrangements to ensure that the organization has and maintains access to the full range of competences and resources necessary — including to the extent possible for resources from providers of external expert support — to conduct its activities and to discharge its responsibilities for ensuring safety at each stage in the lifetime of the facility.	Senior management will have never full control the access to resources from providers of external experts and consequently this cannot be a requirement as it is in the original text		Edited to simplify – *"maintains access to"* ie it does not require that all competences are maintained in-house. However a competence for knowing the competences required will be needed.	REJECTED in principle	Senior management are responsible to set up systems ie "make arrangements" to identify and maintain the critical skills required within the organizations – in this case the safety skills and competences necessary to maintain the safety of a nuclear facility. This can be provided by external resources but the senior management approved "arrangements" must be able to demonstrate that the organization knows what skills they are

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							<mark>buying in and there are adequate standards in application and delivery of the contract. But will modify text to make it more clear..</mark>
11.	4.28	The processes and safety requirements should be skipped her.	Is confusing and already covered in the first sentence. It is also not necessary to have this for all processes. The part related to safety requirements is unclear and doesn't seem to make sense				HF is required as part of HTO. The application of human Factors engineering is required in the improvement of processes and plant
12.	4.29	4.29 The information and knowledge of the organization shall be managed as a resource ~~in a nuclear knowledge management system.~~ as an integral part of the management system	A separate management system should not be introduced in IAEA documents. This will introduce inefficiency and misalignment which the processes and will jeopardize integration		Modified to remove Knowledge <mark>management "system". How-ever knowledge management is an essential part of the integrated management system – and certain knowledge management processes are essential for safety.</mark>		
13.	4.30 d)	d) ~~Developing and~~ documenting the process and maintaining the necessary supporting documentation;	In 4.2 the responsibility for coordinating the development, application and maintenance of the management system has been given to a designated individual. Normally the process owner approves a process. A Safety Standard should not prescribe who should develop		<mark>The standard establishes that senior managers are responsible for ensuring the management system is developed then documented and identifying designated individual. .</mark> <mark>Ensuring that the</mark>		The process owner would be in certain circumstances the 'designated' individual. The development of the documentation would involve their specialists.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			a process. Often especially when processes are being developed this is done by a team of experts not necessarily the process owner which might not be known in the beginning.		management system is developed and documented ……		
14.	4.31	4.31 Each process shall be developed and managed so that safety is not compromised and safety requirements are met. 4.32 The processes, including feedback mechanisms for obtaining information on the effectiveness of the management system, shall be applied, assessed and continuously improved.	Should be split since these are two different aspects		Assessment section – this will be removed as a repetition.		
15.	4.34	For each process, Any activity for inspection, testing, and verification and validation, their acceptance criteria and the responsibilities for carrying out such activities shall be specified in the relevant process. It shall be specified when and at what stages independent inspection, testing, verification and validation are required to be conducted.	The present para is unclear. The mentioned activities are not part of each process.		Edited to make clear.		
16.	4.38 C	Not clear is what is meant by "and are in compliance with"	Unclear sentence				Understanding the safety requirements may not mean their arrangements are in compliance.
17.	4.38 G	Appropriate arrangements for periodic assessment of the management system of suppliers and of their performance; Or	Now to strict. This should be limited to the appropriate safety significance.		Edited to identify a graded approach.		

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		Graded approach for the periodic assessment based on a graded approach of the management system of suppliers of and of their performance.					
18.	4.45 and 4.46	Self-assessment of the management ~~for safety~~ system shall be performed by managers and by individuals at all levels in the organization with the following purposes	With the use of management for safety system, confusion is being introduced. Organizations might introduce a separate management system by which integration is lost and safety might be jeopardized.		Edited to make clear that management for safety must be part of an integrated management system. It must be clear to those following the management system those arrangements in place that are essential for safety.		A specific paragraph will be introduced into the beginning of DS456 to explain that we expect an integrated management system – and when the term Management for safety is used it doesnot imply a separate system but recognition of the important elements inside the integrated system that are required for safety. Some specifc aspects will be there to comply with specific regulations and hazards. DS 456 addresses the safety elements of a management system which may follow specific management or quality standards and /or models. .
19.	4.45b 4.46 b 4.46 c	~~To confirm~~ that the management system is delivering the required ~~standard for~~ ==safety performance== and that the integration of all requirements is adequate. ~~Leadership performance and safety culture~~	Present description is unclear. Leadership performance and safety culture is just a phrase and not clear is what is meant.	Yes			
20.	5.3	Is a mixture between the responsibilities for			edited		All senior manager should be Leaders but

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		senior management and the staff. Responsibilities for sr. management are to create, communicate and encourage and act upon deviations on all aspects but with the exclusion of b which should be the individual staff member. But also in this case it is responsibility of Sr. management to take action in case a staff member refuses:					equally those whose supervise or set people to work should also have leadership qualities.
21.	5.4	The management system shall include arrangements to ensure the participation and visible presence in the field activities of appropriate management levels in the organization	It is clear that management of all levels should have a clear understanding of the safety consequences all activities, but it is not realistic to require all management levels participation in field activities.		Reworded to ensure that understood where visibility is required.		
22.	Footnote 13 (now footnote 14)	Should be deleted.	All assessment activities and not only those for safety culture make use of particular methods such as surveys, interviews, focus groups, field observations and reviews of documents				Agreed but this is the requirement specific for safety culture

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Draft Safety Standard
DS 456 management for safety, leadership and safety culture – 17 March 2015

ENISS Comments

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
General Comment		The explanation of the difference between Management and Leadership that was written in paragraph 1.5 in the draft from February 2014 should be included in the introductory part of the document, either in the text or as a foot note. The difference between management and leadership can be stated simply; Management is a formal, authorized function for ensuring that an organization operates efficiently and that work is completed in accordance with requirements, plans and resources; while leadership is the use of capabilities to give direction, to influence and communicate with the aim of achieving the commitment of all individuals to appropriate goals, shared values and behaviors. Managers at all levels need also to be leaders.	This explanation is good. It should be included.	YES			
1	1.6 footnote 2	The term 'facilities and activities' is a general term encompassing nuclear facilities, uses of all sources of ionizing radiation, all radioactive waste management activities, transport of radioac-	In many countries, any building is a potential cause of radiation exposure due to high concentration of natural uranium in the bedrock and construction materials				IAEA Glossary term used as agreed by member states.

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		tive material and any other practice or circumstances in which people may be exposed to radiation from naturally occurring or artificial sources: essentially any human activity that may cause people to be exposed to radiation risks. However, those domestic and industrial activities where people are exposed to radiation risks arising from naturally occurring radon or from normal construction materials and which do not require a license according to national legislation are not within the scope of this document.	made of it. The current wording would extend the scope of the standard to all industrial and domestic activities in such countries, which is obviously not the purpose of this document.				
2	1.10	'Safety' means the protection of people and the environment against radiation risks, and the safety of facilities and activities that give rise to the radiation risks [1]. ~~It includes the safety of nuclear installations, radiation safety, the safety of disposal facilities for radioactive waste and safety in the transport of radioactive material.~~	This second sentence has no added value and is in contradiction with 1.9, as it limits the scope of the document.	IAEA glossary definition			.
3	4	RESPONSIBILITY FOR THE MANAGEMENT SYSTEM ~~FOR SAFETY~~	The wording of the subtitle of section 4 needs to be reworded There is no single "Management system for safety". The management system integrates safety, health, environmental, quality and other areas.		Changed to high-light that this standard deals with the integration of safety into the management system,		
4	4.20	Records shall be specified in the ~~process documentation~~ management sys-	Records shall be specified in the management docu-	yes			

Relevance: | 1 – Essentials | 2 – Clarification | 3 – Wording/Editorial |

		tem, and shall be controlled. All records shall be readable, complete, identified and easily retrievable.	mentation regardless if the records are connected to a process or not.				
5	4.39	Add as a footnote: If the Organisation defines the categories of graded approach used for product, it is necessary to incorporate only the requirements of the relevant categories. If the supplier would have unduly large difficulties in incorporating the requirements to their management system proper (e.g. a large multinational organisation supplying a component of minor monetary value), the nuclear-specific requirements may be implemented in purchase-specific contracts or in other similar manner that is feasible, trackable and guarantees that the requirements are fulfilled in the actual product.	The formal inclusion of nuclear requirements into the management system of a large supplier may be impossible or extremely costly.		Removed		
6	4.43	All processes shall be periodically evaluated for their effectiveness. Assessments shall be made of radiation risks arising from particular processes and activities taking full account of ageing and obsolescence.	It is important to note that the effects of ageing and obsolescence will not only demand periodic consideration, but also potentially demand significant revision of the management system.		Edited for clarity.		This is part of the full lifecycle – no addition required
7	4.45	Self-assessment of the management system for safety shall be performed periodically by managers and by individuals at all levels in the organization with the following purposes: a) To identify and learn from success and strengths, and correct weaknesses that hinder the achievement of the organization's safe delivery of objectives ;	For safety after the management system should be removed. There is no management system for safety. The management system integrates safety, health, environmental, quality and other areas. Compare with the statement in paragraph 1.2 in the introduction.	yes			

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

		b) To confirm that the management system is delivering the required standard for safety; c) To enhance leadership and safety culture and to ensure the effectiveness of processes and activities;	To ensure the continuous improvement of the management system				
8	4.46	Independent assessments (including audits) of the management system ~~for safety~~, shall be conducted regularly on behalf of senior management to evaluate its effectiveness, and identify opportunities for improvement.	See above	yes			

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

	COMMENTS BY REVIEWER			RESOLUTION			
Reviewer: Contact: Frank Lignini (franck.lignini@areva.com)							
Country/Organization: World Nuclear Association / CORDEL date: 21/05/2015							
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1	1.10	Change "radiation risks" by : Radiation hazards 'Safety' means the protection of people and the environment against radiation hazards and the safety of facilities and activities that give rise to the radiation hazards [1]. This includes the safety of nuclear installations, radiation safety, the safety of disposal facilities for radioactive waste and safety in the transport of radioactive material.	"hazard" is defined as the source of potential damage, harm … and "Risk" is related to probability of occurrence of the hazard. So, in order to insist on the fact that safety is an overridden priority, "hazard" seems to be more adequate				IAEA glossary of terms If this is to be changed this needs to be raise in the context of the IAEA glossay.
2	Requirement 1	Senior management shall ensure that the fundamental safety objective of protecting people and the environment from harmful effects of ionizing radiation is continuously implemented and achieved without unduly limiting the operation of facilities or the conduct of activities that give rise to radiation risks.	Safety objectives have to be assessed and revised as necessary	yes			
3	3.2	Senior management shall encourage open communication within the or-	Rewording	yes			

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

		ganization. Senior management shall seek information on managers' effectiveness of actions at all levels in the organization in achieving, ensuring and enhancing safety, and shall take action as appropriate.					
4	3.5	Managers at all levels in the organization shall actively seek information on safety related performance with appropriate monitoring within their area of responsibility, shall share this information within the organization and shall demonstrate commitment to improving safety related performance	Safety KPI's are needed to ensure proper safety performance assessment	yes			
5	3.7 c)	Change "the basis" by : The fundamentals Shall communicate the fundamentals of safety related decisions	Basis of safety seems to be in contradiction with the fundamentals		This is to encourage the transparency of how a decision is made, to get buy in and acceptance of the decision. Will change statement to "make transparent the considerations of why a decision is made that has implications for safety"		
6	4.11	Remove "security" Provision shall be made in the management system to identify potential impacts of security measures on safety and potential impacts of safety	"The management system shall integrate all elements of management, including safety, health, environmental, security, quality, societal and economic				The opportunity for considering the relationship between safety and security has been included

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

		measures on security, in order to plan and integrate measures to be taken without compromising safety or security.	elements, so that safety is not compromised"				in many world wide documents and agency declarations.
7	4.12	In consistency with requirements 4 and 5, the management and organizational structures, processes, responsibilities, accountabilities, levels of authority and interfaces within the organization and with external organizations, including with a parent organization, shall be clearly specified in the management system	Integration of all elements is based on the consistence of responsibility requirements of the management system. The management system must be built taking into account the senior management responsibilities.				Don't understand the issue with this paragraph.
8	Requirement 8	The requirements for the management system shall be applied by using a graded approach based on the complexity and the importance to safety of each activity, and process and product.	"Significance" is quite generic and do not reflect the importance to safety of this graded approach. Besides, important to safety is the term used in this publication to express this "significance"				Graded approach Tech doc uses the term "significance"
9	4.16 a)	The importance to safety and the complexity of the process, activity, structure, system, component, item of equipment, product or service	"Significance" is quite generic and do not reflect the importance to safety of this graded approach. Besides, important to safety is the term used in this publication to express this "significance"				See above

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

10	4.16 a)	(NB : "4.16 a)" is written twice) The hazards and the magnitudes of the radiation risks, including potential radiological consequences, associated with the safety, health, environmental, security, quality, societal, economic and other elements of each activity or product.	Radiological consequences do not only concern the activity but includes the product as well	yes			
11	4.17 a) and c)	a) The policy statements of the organization as part of the values and expectations of senior management; remove c)	Because a) and c) are similar		edited		
12	4.17 e)	A description of how the management system complies with ~~the~~ all the regulatory requirements ~~on~~ that apply to the organization;	Rewording. The organization shall apply with regulatory requirements that are applicable to its scope	edited			
13	4.23	Senior management shall make arrangements to ensure that the organization has and maintains access to the full range of competences and resources necessary — including resources from providers of external expert support — to conduct its activities and to discharge its responsibilities for ensuring safety at each stage in the lifetime of the product or service.	The organization is only responsible on the life time of the product or service.		Edited with activity		

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

14	4.25	Senior management shall ensure that the competence requirements for individuals at all levels are specified, and shall ensure that training is conducted or other actions are taken to achieve and sustain the required levels of competence. An evaluation of the effectiveness of these trainings and actions shall be conducted	Rewording				Kept as written.
15	4.33	New important to safety processes or changes to them shall be designed, verified and approved and applied so that safety is not compromised.	An approval for new processes or changes to existing processes is not operable if safety is not compromised		edited		Removed 'applied' and changed to Implemented as some times changes may require shadow working etc.
16	4.37	The organization shall have a clear understanding and knowledge of the product or service being supplied…	Not valid in the case of outsourcing of competencies	Yes (superfluous)			
17	4.38 h)	Remove « and validation » Verification and validation that items, products and services supplied meet the organization's specifications.	The validation is not the responsibility of the organization, it belongs to the supplier. The organization does not endorse the validation.	Yes			
18	4.40	The organization shall make arrangements for ensuring that suppliers of items, products and services important to safety and adhere to the contracted safety requirements. and meet the organization's expectations of safe behaviour in their delivery	Why limiting the requirements to "safe behavior in their delivery"? The organization shall make arrangements so that safety is not compromised and at least matches with its contractual scope		Edited. But safe behaviors kept as delivery is important to safe delivery of the service or product.		

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

19	4.44	The causes of non-conformances, events and safety related issues that arise shall be determined and the potential consequences shall be evaluated, managed and mitigated. ….	The organization's responsibility towards non-conformances exceeds evaluation and includes management and mitigation (This is explained later through the notions of corrective and preventive actions)	Yes			
20	4.46	Remove "on behalf of senior management"	This goes against 4.2	yes			
21	4.46 c)	Leadership performance and safety culture awareness	Safety culture evaluation need to be detailed				More than awareness
22	5.1	Change specified by detailed Attitudes and behaviour that contribute to a strong safety culture shall be specified defined and developed through leadership and use of the management system	Rewording	yes			
23	5.2 l)	Change "Risk informed" into : "Risk-based decision making"	In order to put forward the overridden priority characteristic of safety and to avoid misreading NRC's specific definition of risk informed	yes			

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

24	5.3	The management system shall include arrangements to ensure the participation and visible presence ~~in the field activities~~ of management at all levels in the activities of the organization including field activities .	Rewording	yes			

DS456 Leadership and Management for Safety, draft 17th March 2015

		COMMENTS BY REVIEWER		RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1	General	The text has been changed a lot since MS comments, it is very hard to track changes. Major changes have been made to several of the requirements (bolded) text. As an example Req.1,Req. 7, Req. 8, Req. 10, Req. 11, Req. 14 have been changed so that the intent of the requirement has been changes. There is too little time to well justified, prepare comments with in the timeframe for committee comments. IAEA presentation on the approach for the restructuring would be appreciated.			A conversion table will be developed for NUSSC meeting		
2	General	The language in the draft seems to need native speakers checking (see also detailed comments)			Will be done in final editing		
3	General	use " the integrated management system " instead of various expressions	In this document expressions * integrated management system' ,	Made consistent			

Reviewer: M-L Järvinen, K-L, Hutri, R. Bly, S. Hellstén, P. Karhu, J.Mononen, A-M Sunabacka-Starck, K.Merimaa, P.Karhu, K. Koskinen
Page.... of....
Country/Organization:STUK
Date: 22nd May 2015

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

			*management system' and ' management system for safety' are all used, use only one of these to be consistent				
4	1.3, page 4	Modify: "1.3. Management systems designed to fulfil the requirements of this Safety Requirements publication integrate safety, health, environmental, security, quality, societal, and economic elements. ~~Safety is the fundamental objective upon which t~~The management system is based <u>on the fundamental safety objective</u>."	The first sentence is fine, but it would be negated by the following sentence in the present draft, if, after all, safety alone were the fundamental objective. Using instead the existing "fundamental safety objective" (see section 2 of draft) is clearer. Safety and security should be taken into account in a balanced, coordinated manner. We should actually rename the objective as "fundamental safety and security objective", because both regimes exist and are necessary to achieve that objective. Proposed change is an effort to establish at least the idea of this with minimum intervention.	yes			
5	1.6 c	By the vendor or supplier as a basis for meeting the management system requirements.	SF-1 para 3.5. states that "….Other groups, such as designers, manufacturers and constructors, employers, contractors, and consignors and carriers, also have legal,	Yes added			

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

			6professional or f7unctional responsibilities wi8th regard to safety."				
6	1.9 last line	Addition: The requirements in this publication also apply to other groups, such as designers, manufacturers and constructors, employers, contrac-tors, and consignors and carriers, also have legal, professional or functional responsibilities with re-gard to safety.	SF-1 para 3.5. states that "….Other groups, such as designers, manufacturers and constructors, employers, contractors, and consignors and carriers, also have legal, professional or functional responsibilities with regard to safetyd	.			Added in previous paragraph
7	Req. 1	New formulation Requirement 1: Achieving the fun-damental safety objective Senior management shall ensure that the fundamental safety objective of protecting people and the environ-ment from harmful effects of ioni-zing radiation is achieved ~~without unduly limiting the operation of facilities or the conduct of activities that give rise to radiation risks.~~	Also in SF-1 the rest of the sentence is in guidance part. To have *unduly liming' in the requirement statement, it might be misleading	yes			
8	2.1 d	Addition: …and ensuring that all employees understand risks releated to the faci-lity or activity	Also all employees should be aware of poten-tial risks ja consequences of failure		Edited to include		
9	3.1 c	New formulation: ensure the acceptance of personal accountability in relation to safety on the part of all individuals in the organization.	former formulation is misleading	yes			
10	3.1 d	Establish and communicate ~~that~~ the safety policy stibulationg that safety	Clarity, the former text is not understandable		Edited in line wioth other		

Relevance: 1 – Essentials 2 – Clarification 3 – Wording/Editorial

		is an overriding priority of the organi-zation, in accordance with the highest standards of safety that can reasona-bly be achieved.			member states comments		
11	3.1. f	New formulation: Ensure that decision making at all levels is guided by ~~their~~ priorities and accountabilities ~~for safety guide s~~	Need to be clarified ---	yes			
12	3.1 (i)	Addition Promote safety culture and its attri-butes by all means in the organizati-on.	Managers at all levels and especially seniors should act as role models.		Included in b)		
13	3.1 (j)	Addition: Ensure that the organization struc-ture is in line with the management for safety.	Both the organization astructure and the decisi-on making should be considered. The require-ment should be after 3.1 (f).	yes			
14	3.7	Addition: (d) Shall enhance questioning attitu-de in the organization	Important when promo-ting safety culture See also 3.9		Included in 3.6		
15	chapter 4 subtitle	RESPONSIBILITY FOR THE MA-NAGEMENT SYSTEM ~~FOR SA-FETY~~	see also comment no 2				Edited in line with other member states comments
16	4.2 , lines 3-6	4.2 …. This assignment of responsi-bility to an individual shall not de-tract from the line management's responsibility and accountability for safety.	Clarity	yes			
17	4.3 a	Senior management shall establish arrangements for the development of goals, strategies, plans and objectives, with consultation of and feedback ~~of~~	There are two require-ments in 4.3 that could be dealt as individual requi-				Kept as in line with other comments

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

#	Section	Comment	Reason				Disposition
		~~information~~ from individuals in the organization.	rements.				
18	4.3 b	The goals, strategies, plans and objectives of the organization shall be developed in such a manner that safety is not compromised by other priorities.	There are two requirements in 4.3 that could be dealt as individual requirements				Kept as in line with other comments
19	Req 6	Move the requirement into the Management system chapter	Although 4.6 – 4.8 are requirement for senior management the requirement itself is to include interactions with interested parties within the IMS				Consultancy meetings and other discussions acknowledge tbhat this requirtements may cross cut under the different heading – advice places it in this section.
20	4.10	Addition: (d) Promoting safety culture		yes			
21	Req 8	New formulation graded approach to the application of the requirements ~~for~~ of the management system	of instead of for see also GS-R-3				See edit
22	4.16	Editorial There are two (a) subrequirements in 4.16.		edited			
23	4.16 (b)	The possible consequences of the deficiencies in the planning or conduct of the activity	Clarity				Kept the same
24	4.16 (c)	The possible consequence if a failure or an unanticipated event occurs.	Needs to be clarified.				IEC checked the language. This relates to Risk assessment activities
25	4.17 c	New formulation A statement of the values and **behav-**	clarification		edited		

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

		ioral expectations of senior management;					
26	4.26	Competences to be maintained in-house by the organization shall include competences for leadership at all levels and for developing and sustaining a safety culture, and expertise to understand and maintain the design basis and the safety case of the facility or activity.	There are several different topic incorporated to the requirement that could be separated. The in-house competence defined is quite limited.				Tackled by para 23 These are areas identified by work associated with Fukushima Daiichi lessons. As it „includes" this meand it is not an exhaustive list but highlights specifics
27	4.26 line 4	…. facility or activity. Senior management shall ensure: a) that individuals at all levels, including managers	add division into paras	edited			.
28	Req. 11	**Management of processes and activities** **Processes and activities shall be developed and managed to ensure safety.** ~~achieve the organization's goals safely.~~	Clarity. There should be a clear requirement.				As there are many different types of organisations with different business goals it was felt that we needed to link it to those goals.
29	4.29	The information and knowledge of the organization shall be managed as a resource ~~in a knowledge management system~~.	At the requirements level there is no need to specify how the information and knowledge is managed.	edited			
30	Req.14	**Change.** **Fostering strong safety culture**	Title "continuous improvement of safety culture" does not describe the content of the following		edited		

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

				1	2	3	
			requirements.				
31	Req.14	**Individuals in the organization, from senior management downwards, shall *promote good* safety culture. The management system shall be used to foster and support a strong safety culture.**	Clarity: The draft required for all of the individuals to demonstrate leadership.				
32	5.2 (a)	Addition: A collective **and individual** commitment to safety by teams and individuals;	only collective commitment is not enough, commitment by all individuals is also needed				Collective includes individuals and teams
33	5.2 (l)	~~Risk informed~~ Conservative decision making in all activities.	Clarity		Included conservative decision making		Other comments from other Member states included.
34	Req 15	**New formulation Assessment and Continuous Improvement a of leadership <mark>for safety</mark> and safety culture**	.. for safety should be added See above Req. 14	yes			
35	5.5		rather detailed guidance, should be raised to higher level	yes			

DS456 Leadership and Management for Safety - Draft General Safety Requirements, No. GSR Part 2

	COMMENTS BY REVIEWER			RESOLUTION			
Reviewer: Mr. R. Jansen, Ms G.Delfini (2 pages)							
Country/Organization: The Netherlands / ANVS (RB)		Date: May 2015					
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1	4, p.11	General: speak only about "the management system" instead of "the management system for safety"	This prevents confusion, there are no two management systems involved.		Edited but need clarity that ist an integrated management system and this standard is about the safety requirements within the management system.		
2	p.5	Req. 1.6a By the registrant or licensee ….. Req. 1.6b By the registrant or licensee ….. Req. 1.6c By the regulatory body…. Req. 1.6d By the regulatory body….	The (sub)ranking in Req. 1.6 is lost.				Order is: operators, regulators and GOs, and then vendors and suppliers
3	p.12	Req. 4.8 Senior management shall make arrangements …… in relation to safety.	Proposed to skip "and to take appropriate actions" because it may lead to misunderstanding. Interested parties may not define/prescribe what is appropriate.		Edited – paragraph moved under requirement for interested parties from 3.3		
4	p.21	Req. 5.3 The management system shall include arrangements to ensure at all levels in the organization the participation and visible presence in the field activities of management.	It is proposed to reshuffle the sentence: not all managers should be present everywhere. Instead: first, all managers should be present, and second, at their own (appropriate)		edited		

Relevance: 1 – Essentials 2 – Clarification 3 – Wording/Editorial

				level.					

DS456 - Safety Requirements: Leadership and Management for Safety

		COMMENTS BY REVIEWER		RESOLUTION				
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1	1.6	a) By the registrant or licensee, for ensuring leadership and management…….. b) By the registrant or licensee, to specify to a vendor or supplier of products and equipment, or a contractor for services, and to any other relevant ……….. c) By the regulatory body, as a part of the basis for the regulation of facilities and activities………. d) By the regulatory body and other relevant governmental organizations, as a basis for meeting their ……	Separate the paragraph, distinction of different ways easier to read and understand.	edited			
2	1.13	"to establish"	Remove full stop after to.	edited			
3	2.1	"(or closure) of"	No space between.	edited			
4	4.17 (a)	"statement"	Singular	edited			
5	4.17 (e)	"all the"	Change word around.	edited			
6	4.23	"lifetime of the facility or activity"	Include activity.	edited			
7	4.41	"intended results" "successes, strengths and weaknesses"	Change words around. Remove and.	edited			
8	4.50	(a) Results delivered and objectives achieved … (b) Non-conformances and the progress and effectiveness…. (c) Operating experience, including lessons and good…… (d) Opportunities for improvement	Correct the indexing numbering.	edited			
9	5.4	"their tasks successfully"	Change wording around.	edited			

Relevance: 1 – Essentials 2 – Clarification 3 – Wording/Editorial

Draft General Safety Requirements DS456 "Leadership and Management for Safety", Step 11, 2015-03-17
Version for NUSSC 39

			COMMENTS BY REVIEWER		RESOLUTION			
			Reviewer: **Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB)** (with comments of BfS and GRS) Page 1 of 14					
			Country/Organization: **Germany** Date: May 20th , 2015					
Rele-vance	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modifi-cation/rejection
1	1	General Com-ment	The structure of other standards on management systems should be ap-plied. The new high-level structure for all management system stand-ards of the ISO Committee should be considered. Annex SL applies to all management system standards, such as full ISO standards, Publicly Available Specifications (PAS) and Technical Specifications (TS). The revised ISO 9001 and ISO 14001 as well as the new ISO 45001 will be based on Annex SL's high-level structure.	Why is the structure of the dpps no longer fol-lowed? Here, a special-ly dedicated "Manage-ment System" section is provided where re-quirements could be listed that are no longer contained in the present draft. ISO is not binding for the IAEA, but many standards according to which companies let themselves be certified simply are ISO stand-ards. Hence it is easier for a company if differ-ent standards are simi-larly structured. After all, with GRS-3, the IAEA adopted the structure of the ISO 9000 family and also implemented it in other documents.		Reworded to ensure understanding that safety is integrated into the manage-ment system.		MANAGE-MENT SYS-TEM is includ-ed in the draft see requirement 7, 8, 9. Point noted

Relevance: 1 – Essentials 2 – Clarification 3 – Wording/Editorial

Rele-vance	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modifi-cation/rejection
			COMMENTS BY REVIEWER Reviewer: **Federal Ministry for the Environment, Nature Conservation, Building and Nucle-ar Safety (BMUB)** (with comments of BfS and GRS) Country/Organization: **Germany**	Page 1 of 14 Date: May 20th , 2015	RESOLUTION			
				MS: Requirements for process orientation are missing. For steering the organization and its processes, not only the "sequence and interac-tions" of the processes but also the process inputs and outputs as well as the associated performance indicators (key figures) need to be considered now.				KPIs are in-cluded in docu-ument "Processes and activities" en-compass this. More detailed advices will be included in the guidance for this standard
1	2	General Com-ment	A comparison between the require-ments of GS-R-3 and DS456 would be helpful, just as a document con-taining track changes between the major draft versions.	A comprehensive ex-amination of the docu-ment has not been pos-sible due to the lack of a comparative table and the short time available for the review.		Comparative table will be created for NUSSC meeting.		
1	3	General Com-ment	Some general remarks: It is noticeable that the current draft places a much higher emphasis on safety culture than the current GS-R-3. This is a highly appreciated development. A MS is addressed within the draft, however the requirements for a MS		Acknowl edged			Sequence set by comments from overview of Member States and CS meet-ings .

Relevance: 1 – Essentials 2 – Clarification 3 – Wording/Editorial

	COMMENTS BY REVIEWER				RESOLUTION			
	Reviewer: **Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB)** (with comments of BfS and GRS) Country/Organization: **Germany**			Page 1 of 14 Date: May 20th , 2015				
Rele-vanc e	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modifi-cation/rejection
			do not seem to follow a sequence, e.g. R 3 requires a MS to be contin-uously improved even before R 4 requires a MS in the first place. R 7 should be placed after R 4 to specify that the MS is an integrated MS be-fore details on what should be inte-grated (e.g. R 6 interaction with in-terested parties) are given. Other examples can be given. This makes it impossible to judge whether all necessary requirements for a MS have been incorporated in the draft within the short time frame available for commenting this draft. Paragraph 1.7 and 1.12 state that other references can be used to sup-plement the draft of GSR Part 2. While this is true, my understanding is that the IAEA Safety Standards are standalone documents that are amongst others used by the IAEA itself to judge whether the national frameworks of countries are ade-quate. Saying this, the IAEA Safety Requirement must be fulfilled while Safety Guides give guidance on how requirements could be met. Against					

Relevance: ☐ 1 – Essentials ☐ 2 – Clarification ☐ 3 – Wording/Editorial

	COMMENTS BY REVIEWER				RESOLUTION			
	Reviewer: **Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB)** (with comments of BfS and GRS)			Page 1 of 14				
	Country/Organization: **Germany**			Date: May 20th , 2015				
Rele-vanc e	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modifi-cation/rejection
			this background it should be ensured that Paragraph 1.12 does not give the impression that other references that do not have the same status as a IAEA safety requirement should be used to make up for essential re-quirements that used to be in GS-R-3 but are no longer in GSR Part 2. A re-wording is recommended.					
1	4	General Com-ment	The language of the guide is very senior management focused. It should be considered to put more emphasis on the rest of the organisa-tion.	While it is an integral part of promoting a strong safety culture and implementing an integrated management system, that senior management is aware of its responsibilities in this respect, there are more aspects to consid-er: Senior management are at the top of the organi-sation, however, they do not operate as an isolated group. It is the employees, line manag-ers and process manag-	Support to lead-ers add-ed in 3.1			Document has specific senior management requirements due to lessons from Fukushi-ma Daiichi and other elopement work. 3 of the 15 requirements are specific to the senior man-agement all others apply equally to all. Support ot leaders added in 3.1

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

		COMMENTS BY REVIEWER			RESOLUTION			
		Reviewer: **Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB)** (with comments of BfS and GRS) Page 1 of 14 Country/Organization: **Germany** Date: May 20th, 2015						
Rele-vance	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modifi-cation/rejection
				ers that have an important part in achieving the work, living the values and policies and discharging the responsibilities of any organisation – whether regulatory body, operator or dentist. Therefore, it is important to mention the important role of senior management in appointing, instructing and supporting people so that those people can contribute to effectively carrying out their share in the organisations work/values/responsibilities… Senior management also needs to support other relevant managers in their appointed roles and responsibilities. At the moment this aspect is insufficiently				

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

Rele-vanc e	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modifi-cation/rejection
				stressed if not missing in the current draft.				
2	5	Chapter 1.1 "Back-ground"	"This Safety Requirements publica-tion establishes requirements for establishing and sustaining effective leadership and management for safe-ty in organizations concerned with facilities and activities that give rise to radiation risks. This includes the regulatory body and other competent authorities, and the organization responsible for the facility or activi-ty."	Please use the wording used in Management System documents: "… established, implement-ed, assessed and con-tinually improved."		Edited to fit para-graph.		
2	6	1.12	"… Relevant safety requirements are established in other IAEA safety stand-ards [2–14]. ~~See also Refs [15, 16].~~ Recommendations and guidelines are provided in <u>Refs [15, 16, 36–39],</u> ~~publi-cations~~ in the IAEA Nuclear Security Series <u>publications</u> [17–20]<u>,</u> and in international codes and standards [21–27]. Terms used in this publication are defined in the IAEA Safety Glossary [28]." Please add the Safety Guides GS-G-3.2, GS-G-3.3, GS-G-3.4, and TS-G-1.4 to the list of references: "[36] INTERNATIONAL ATOMIC	As stated in Para 1.9, the requirements in GSR Part 2 apply to all types of facilities and activities that give rise to radiation risks. Having this in mind, it remains unclear why Para 1.12 provides a ref-erence to the Safety Guide GS-G-3.5 [15], but omits the ones to the corre-sponding Safety Guides GS-G-3.2, GS-G-3.3, GS-G-3.4, and TS-G-1.4. This remains valid also in view of the facts that (a) the re-vision and combination of				Rejected as paragraph only refers to GS-R-3

Relevance: 1 – Essentials 2 – Clarification 3 – Wording/Editorial

COMMENTS BY REVIEWER

Reviewer: **Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB)** (with comments of BfS and GRS)

Country/Organization: **Germany**

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Date: May 20th , 2015

RESOLUTION

Rele-vance	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			ENERGY AGENCY, The Management System for Technical Services in Radiation Safety, IAEA Safety Standards Series No. GS-G-3.2, IAEA, Vienna (2008)." "[37] INTERNATIONAL ATOMIC ENERGY AGENCY, The Management System for the Processing, Handling and Storage of Radioactive Waste, IAEA Safety Standards Series No. GS-G-3.3, IAEA, Vienna (2008)." "[38] INTERNATIONAL ATOMIC ENERGY AGENCY, The Management System for the Disposal of Radioactive Waste, IAEA Safety Standards Series No. GS-G-3.4, IAEA, Vienna (2008)." "[39] INTERNATIONAL ATOMIC ENERGY AGENCY, The Management System for the Safe Transport of Radioactive Material IAEA Safety Standards Series No. TS-G-1.4, IAEA, Vienna (2008)."	GS-G-3.3 and GS-G-3.4 in DS477 was already initiated, and (b) GS-G-3.2 will be superseded in the near future by DS453 "Occupational Radiation Protection". DS453 has been endorsed by the CSS at its 37th meeting in April 2015. In order to avoid arbitrariness in citations of Safety Guides subordinated to GSR Part 2, we recommend adding GS-G-3.2, GS-G-3.3, GS-G-3.4 and TS-G-1.4 to the list of references.				
1	7	Require-quire-ment 1	"Achieving the fundamental safety objective" "Senior management shall ensure that the fundamental safety objective of protecting people and the envi-	A distinction concerning the responsibility should be made between senior management and the licensee.		Added licensee plus senior management.		Both have to work collectively to achieve the fundamental

Relevance: 1 – Essentials 2 – Clarification 3 – Wording/Editorial

					RESOLUTION			
	COMMENTS BY REVIEWER Reviewer: **Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB)** (with comments of BfS and GRS) Country/Organization: **Germany**				Page 1 of 14 Date: May 20th , 2015			
Rele-vanc e	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modifi-cation/rejection
			ronment from harmful effects of ionizing radiation is achieved with-out unduly limiting the operation of facilities or the conduct of activities that give rise to radiation risks."	The licensee could be held legally responsible for the regulatory body. There is a mismatch between senior man-agement and licensee regarding the IAEA Glossary: - "Senior management means the person who, or group of people which, directs, controls and assesses any organ-ization (also regulatory body!) at the highest level." - "The licensee is the person or organization having overall respon-sibility for a facility or activity (the responsible legal person)."				
1	8	Section 4, Head-line be-fore Re-quire-ment 4	"RESPONSIBILITY FOR THE MANAGEMENT SYSTEM ~~FOR SAFETY~~"	Use consistent terminolo-gy to avoid confusion. Elsewhere in the docu-ment, only the term 'man-agement system' is used. The amendment 'for safe-ty' would raise the ques-				Addition of "for safety" added to make the point that we are fo-cused on safety whereas the

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Reviewer: **Federal Ministry for the Environment, Nature Conservation, Building and Nucle-ar Safety (BMUB)** (with comments of BfS and GRS) — Page 1 of 14

Country/Organization: **Germany** — Date: May 20th, 2015

Rele-vance	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modifi-cation/rejection
				tion whether there are other management sys-tems which do not inte-grate safety elements.				integrated man-agement system is also to achieve the business goals.
1	9	Section 4, Re-quire-ment 5	"**Requirement 5: <u>Goals, strategies, plans and objectives</u>** **Senior management shall establish goals, strategies, plans and objectives for the organization that are con-sistent with the organization's safety policy.**"	The title of the require-ment is missing and should be added.	edited			
1	10	Require-quire-ment 6 in con-junction with para-graph 4.17 (e)	R 6: **Interactions with interested parties shall be integrated into the management system.** 4.17 The documentation of the man-agement system shall include, as a minimum, the following: (e) A description of how the man-agement system complies with the all regulatory requirements on the organ-ization;	Why was it decided to turn "interaction with interested parties" into a separate requirement whereas "compliance with all regulatory re-quirements" is men-tioned à la "by the way" under "documenta-tion"? This seems out of bal-ance with the im-portance of these two issues. It is suggested to turn 4.17 (e) into a re-quirement or give it a		Paragraph moved from 3.3 to R6		Interested par-ties was sepa-rate in GSR3 and requested to remain sepa-rated

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Relevance	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
				more prominent place. It should be discussed whether R 6 needs to be a separate requirement.				
	11	Requirequirement 9, 10, 12		What is the reason for highlighting these processes? What about the other processes from GSR-R-3, Chapter 5 (Generic Processes: Control of documents, Control of products, Control of records, Purchasing, Communication, Managing organizational change)? Parts of the content were put in Requirement 11 however, it is clearer when the requirements are separated. E.G. Requirements from GS-R-3 for managing organizational change were skipped				Aligned with consultants advice and GSR3 Management of change included under requirement 7.9, 11, 13
1	12	Requirequirement 10	"Provision of resources" 4.29 "The information and knowledge of the organization shall	Beneath an integrated management system, no other management sys-		Edited to remove "system"		

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

		COMMENTS BY REVIEWER			RESOLUTION			
		Reviewer: **Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB)** (with comments of BfS and GRS)		Page 1 of 14				
		Country/Organization: **Germany**		Date: May 20th, 2015				
Rele-vance	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			be managed as a resource in a knowledge management system."	tems like KMS exist. KM should be handled like a human resource.				
1	13	Require-quire-ment -13:	Requirement -13: Measurement, assessment and improvement of the management system The effectiveness of the management system <u>and its processes</u> shall be measured <u>(as applicable)</u>, assessed and improved so as to enhance safety related performance	One can´t really measure a management system or its performance with such a validity to justify the expression: "Measurement". What one can measure are performance indicators of processes.	y			This is retained from GSR3
1	14	4.41	The effectiveness of the management system <u>and its processes</u> shall be monitored and measures <u>(as applicable)</u> to confirm the ability of the organization to achieve the results intended,…	One can´t really measure a management system or its performance with such a validity to justify the expression: "Measurement". What one can measure are performance indicators of processes.				This is retained from GSR3
1	15	4.42	Performance indicators shall be developed and used in order to assess the effectiveness of the management system and …	Exchange the word "measure" for the word "assess" – see above	yes			
	16	4.43	All processes shall be periodically evaluated for their effectiveness. <u>Performance indicators should be</u>	Performance indicators can be measured (see above).	yes			

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

COMMENTS BY REVIEWER

Reviewer: **Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB)** (with comments of BfS and GRS)

Country/Organization: **Germany**

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Relevance	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			measured. Assessments…					
2	17	Ref. [2]	"INTERNATIONAL ATOMIC ENERGY AGENCY, Governmental, Legal and Regulatory Framework for Safety, IAEA Safety Standards Series No. GSR Part 1 (Rev. 1), IAEA, Vienna (2010) (2015)."	In the frame of the IAEA Action Plan on Nuclear Safety, GSR Part 1 was revised by amendment (DS462). The final version of DS462 was endorsed by the CSS (November 2014) and the Board of Governors (March 2015). GSR Part 1 Rev. 1 will be published this year.	yes	**ALL REFERENCES WILL BE EDITED FOR FINAL DRAFT**		
2	18	Ref. [4]	"INTERNATIONAL ATOMIC ENERGY AGENCY, Safety Assessment for Facilities and Activities, IAEA Safety Standards Series No. GSR Part 4 (Rev. 1), IAEA, Vienna (2009) (2015)."	In the frame of the IAEA Action Plan on Nuclear Safety, GSR Part 4 was revised by amendment (DS462). GSR Part 4 Rev. 1 will be published this year.	yes			
2	19	Ref. [7]	"INTERNATIONAL ATOMIC ENERGY AGENCY, Preparedness and Response for a Nuclear or Radiological Emergency, IAEA Safety Standards Series No. GS-R-2 GSR Part 7, IAEA, Vienna (2002) (2015)."	The Safety Requirements GS-R-2 need to be replaced by its successor document GSR Part 7 (DS457, revision of GS-R-2). The final version of DS457 was endorsed by the CSS (November 2014) and the Board of Governors (March 2015). GSR Part 7 will be estab-	yes			

Relevance: 1 – Essentials 2 – Clarification 3 – Wording/Editorial

		COMMENTS BY REVIEWER Reviewer: **Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB)** (with comments of BfS and GRS) Country/Organization: **Germany**				RESOLUTION			
Rele-vanc e	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modifi-cation/rejection
				lished as an IAEA Safety Standard before DS456 is finalized, forcing the re-moval of references to GS-R-2 from the docu-ment.				
2	20	Ref. [8]	"INTERNATIONAL ATOMIC EN-ERGY AGENCY, Site Evaluation for Nuclear Installations, IAEA Safety Standards Series No. NS-R-3 (Rev. 1), IAEA, Vienna (2003) (2015)."	In the frame of the IAEA Action Plan on Nuclear Safety, NS-R-3 has been revised by amendment (DS462). NS-R-3 Rev. 1 will be published this year.	yes			
2	21	Ref. [9]	"INTERNATIONAL ATOMIC EN-ERGY AGENCY, Safety of Nuclear Power Plants: Design, IAEA Safety Standards Series No. SSR-2/1 (Rev. 1), IAEA, Vienna (2012) (2015)."	In the frame of the IAEA Action Plan on Nuclear Safety, SSR-2/1 has been revised by amendment (DS462). SSR-2/1 Rev. 1 will be published this year.	yes			
2	22	Ref. [10]	"INTERNATIONAL ATOMIC EN-ERGY AGENCY, Safety of Nuclear Power Plants: Commissioning and Op-eration, IAEA Safety Standards Series No. SSR-2/2 (Rev. 1), IAEA, Vienna (2011) (2015)."	In the frame of the IAEA Action Plan on Nuclear Safety, SSR-2/2 has been revised by amendment (DS462). SSR-2/2 Rev. 1 will be published this year.	yes			
3	23	List of refer-ences	Note: The references [29] – [35] (internation-al conventions and codes of conducts) are not cited in the text of the draft doc-	All those documents which have been consult-ed and served as a basis for developing GSR Part	yes			

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Rele-vance	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modifi-cation/rejection
		COMMENTS BY REVIEWER Reviewer: **Federal Ministry for the Environment, Nature Conservation, Building and Nucle-ar Safety (BMUB)** (with comments of BfS and GRS) Country/Organization: **Germany**			RESOLUTION			
				Page 1 of 14 Date: May 20ᵗʰ , 2015				
			ument. Perhaps it was forgotten to in-clude a proper citation in Para 1.12 where almost all other references are quoted.	2 should be quoted sys-tematically in the text.				

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

COMMENTS BY REVIEWER				RESOLUTION			
Reviewer: Anders Hallman, Petra Sjöström							
Page.... of....							
Country/Organization: SSM			Date: 22/5/2015				
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1	Req. 1	Senior management shall ensure that the fundamental safety objective of protecting people and the environment from harmful effects of ionizing radiation is achieved. ~~without unduly limiting the operation of facilities or the conduct of activities that give rise to radiation risks.~~		YES	EDITED		
2	Req. 14	Continuous improvement of safety culture. 5.2 All individuals in the organization shall contribute to fostering and supporting a strong safety culture. The management system shall be used to provide and support the following: …					

Relevance: | 1 – Essentials | | 2 – Clarification | | 3 – Wording/Editorial |

Canada's Comments on
DS456- Leadership and Management for Safety

	COMMENTS BY REVIEWER Reviewer(s): P. Lahaie, K. Heppell-Masys, Kathleen, A. Bouchard, R. Edwards, A. Senathirajah Country/Organization: Canadian Nuclear Safety Commission Date: May 22, 2015			RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1	General Positive	N/A	The document has improved significantly since the April 2014 version. It is well organized, easier to read and generally clearer.	Thank you			
2	General positive	N/A See 2a	The orientation of this document to support and further expand on principles 1 and 3 of SF-1 is fundamentally a very positive evolution	Thank you			
2a	Requirement 1 text section 2	Simply state the safety objective as in SF-1. The bold description under Requirement 1 is too wordy. **Senior management shall ensure that the fundamental safety objective of protecting people and the environment from harmful effects of ionizing radiation is achieved**	The rest of the text should not be highlighted as it can take away from the key message of fundamental 1. That text should be in the following sections.(2.1 a to f)	Yes			
3	General Comment	This document is attempting in many places to differentiate between leadership, senior management and management and their relationship to the management system. This causes some confusion. It is suggested that DS 456 reflect Principle 3 as it is written in SF-1to simplify the text Related comments are in 3a to 3j	Principle 3 does not differentiate between levels of management. In fact it only speaks about expectations of leaders and of the management system. It could be helpful to simply state the responsibility and accountability of senior managers for the management system and for safety and that good leadership is an expectation of all managers (at least) .				This change has been driven by the lessons from Fukushima Daiichi where it is accepted that senior management have a fundamental impact on safety in their leadership and their

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			The addition of demonstrated leadership by others is also good.				support of fostering a strong safety culture.
3a	Requirement no 2 and 3 on demonstration of leadership	Requirement 2: Demonstration of leadership by senior management Requirement 3: Demonstration of leadership for safety by managers at all levels	These two requirements are significant and important, but from a regulator's perspective the oversight of licensees, especially for small licensees dealing with activities, is very challenging.				Accepted but they can use a graded approach
3b	1.4 line 4	Include the text in section 3.12 of SF-1 to better explain 1.4 as well as the key components of DS456(Leadership, management system, safety culture)	The explanation in 1.5 is not as clear as in 3.12in SF-1	accepted and edited			
3c	1.5b) line1	Remove line 1, which is a definition of management. Text should read as " **b) management for safety,** **which is achieved through leadership** **and the implementation of a management system. The management system is established to achieve the highest…..**	The definition of management should be a foot note or reference in glossary. 1.5a) does not have a definition SF-1 Principle 3 rarely refers to "management for safety". It focusses on "the management system"		Edited to reflect leadership.		
3d	1.5b)	The text should read as per principle 3 of SF-1 without further explanation. Suggest:" **1.5 b) management for safety, which includes establishing and implementing and effective management system. This system has to integrate all elements of management so that requirements for safety are established and applied coherently with other requirements, including those for human performance, quality and security, and so that safety is not compromised by other requirements or demands. The management system also has to ensure the promotion of a safety culture, the regular assessment of safety performance and the application of lessons learned from experience.**	The text in 1.5b) introduces a level of subjectivity around safety (ie the highest level that can be reasonably achieved…who decides what is reasonable?) The concepts in SF-1 and GSR-3 on this are clear and unambiguous.	Replaced definition			

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

3e	1.8 line 1	The objective of this publication is to establish requirements that **support** Principle 3 of the Fundamental Safety Principles SF-1, in relation to establishing, maintaining and continuously improving leadership and management for safety**, and a management system which are key to developing that supports a strong safety culture, in the organization.**	A principle is supported; a requirement is applied. The suggested language infers that leadership , management and the management system are all integral in developing and supporting a safety culture	edited			
3f	1.10	Nuclear Safety.	The meaning of safety in general is not restricted only to radiation risk		Noted		
3g	4.2	Senior management shall assign to a designated individual the responsibility and **authority** for coordinating the development, **implementation** and maintenance of the management system. The designated **individual shall report directly to senior management.** This assignment of responsibility to an individual shall not detract from the responsibility and accountability of senior management for the management system	This is a solution for managing the management system that is a bit prescriptive and is more of a "best practice". However, if it is to remain, it should be clear that current best practice in management system standards (including GS-R-3) places the responsibility and accountability on senior management for the management system.		Edited in line with group of MS comments		
3h	4.12	Remove the word "**management**" from line 1	It suffices to say " the organizational structures, processes , responsibilities….etc. Management structures is an inseparable element within the org structure	yes			
3i	4.17 h)	Change to " A description of the **management** processes, with supporting information that explains how work is to be **planned, performed, verified, recorded and assessed and how requirements are to be assured.**	Processes that are applied across organizations are referred to as "management processes". The activities listed in the suggested text are in chronological order with industry accepted terminology. All requirements need to be	yes			

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			met, not limited to safety, quality and security.				
3j	5.3	Remove clause or reword to ensure 'engagement of leaders at all levels with staff'	This is a leadership practice that doesn't require documentation in the management system. It's a recommendation that "visible" and "'engaged" leadership be the norm within organizations				
4	General Comment	It is not clear if this document requires a management system only dedicated to safety, or a management system that integrates all aspects of safety but is aiming at delivering the goals and objectives of the organization "safely" Throughout the document wording is used that sometime allows the reader to think that the expected management system is only about safety, and in other areas, the reader is lead to think that the management system needs to address the whole of the "raison d'etre" of the organization see example of such wording in next column. It is recommended to review the wording used through the document to clarify this distinction. Related comments are in 4a to 4k	In some sections like in 1.3 it is stated that the safety is the fundamental objective of the management system. Yet in others section like requirement 7 it states "the management system shall integrate all elements of management, including safety"… Under item 4.9 it also state " it shall be aligned with the goals of the organization and shall contribute to their achievement"		Edited to clarify that safety is the focus of this standards but within the integrated management system.		
4a	3.1d)	Change to : **Establish and communicate the policy on safety as a paramount consideration in all activities.**	The wording is very strong and somewhat unattainable. The subjectivity of "the highest standards of safety that can be reasonably achieved" makes this difficult. What are these and who decides? It is more relevant to say safety is a **paramount consideration** .The practical application of these requirements needs to be		Removed – but overriding has been retained		

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			considered.				
4b	3.4a)	Remove **"to ensure safety"** at end of line	The management system is about more than safety. Safety is a paramount consideration in the MS.	re-moved			
4c	3.5	Remove the term "**safety related**"	The key here is to measure and improve all performance of which safety is one component	re-moved			
4d	3.7b and c	Remove the term **"safety related"**	As per above, overall performance is what is important with due consideration to safety. It is not realistic to think that only safety related performance will be addressed.	re-moved			
4e	4	Responsibility for the Management System for Safety. This should read "**Responsibility for the Management System**" The management system is for more than ensuring safety. "for ensuring safety" should be removed from the end of requirement 4	There is one management system. This reads as though we are talking about a separate management system for safety (SMS perhaps); would be a step backwards from GS-R-3		retitled		
4f	4.5	Change **"safety objectives and goals"** to **"goals and objectives"**	The execution of plans is about all the goals and objectives…not only safety. (ie other regulatory and functional requirments). All objectives can have an impact on safety.				Focus is safety
4g	4.10 a)	Remove **":for safety"**	It is all encompassing and more integrated to say…for managing the organization and its activities.				Focus is safety
4h	4.10 c)	Should read "**Ensuring that safety is taken into account and it is not compromised in decision making."**	Typically, safety is compromised by poor decision making….therefore the last part of the sentence is contradictory.		Identified that it's the decision making process		
4i	4.17 b)	Add other aspects of safety. Suggest wording as follows : **"A safety policy, stating that achieving**	Contrary to the safety scope of SF-1 which is limited to radiological safety, an organiza-		Edited		

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		the fundamental safety objective of protecting people and the environment from harm is a priority	tion's safety policy should be all encompassing and not be limited to radiation. Safety is a paramount consideration and priority (overriding priority is an extreme)				
4j	4.45	Remove **"for safety"**	The management system is for more than "safety"	edited			
4k	4.50	Remove **"safety related**" and fix lettering of list (k,l,m n to a,b,c,d)	The management review is for all performance. The list that follows is broader than "safety related"	edited			
5	General Comment	Improve the document to clarify that this standard addresses all the risks inherent with the facility and activities, not just the radiation related risks. Related comments are in 5a to 5d	In section 1.1, the following wording is used to describe the applicability of this standard: *"in organizations concerned with facilities and activities that give rise to radiation risks."* This kind of reference is used again and again in different form. In the foot note no 3 on page 5, the expression *"that gives rise to radiation risks"* is further clarified to be only related to radiations. In section 1.9, the document clearly states that it is intended to apply: *"to all types of facilities and activities that give rise to radiation risks".* Yet, many of these facilities, although clearly related to the uranium fuel cycle, have inherent risks that are fare greater than the nuclear /radioactive				1.1. This Safety Requirements publication establishes requirements for establishing, assessing, continuously improving and sustaining effective leadership and management for safety in organizations concerned with facilities and activities that give rise to radiation risks. This includes the regulatory body and other competent authorities, and the organization responsible for the facility or activity.

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				risks. In these cases the emphasis put in this document on radiation risks overshadows the necessities to address ALL risks inherent with the type of facility or activity carried out.				This is taken directly from principle 3 if FP-1 In an integrated management system all risks would need to be addressed.
5a	2.1 d)	Include**…. an understanding of all risks, including radiation risks…**	Managers have to be aware of all risks(security, environment, quality, radiation etc				See FP-1 3.1
5b	4.7	Say **"all risks**" and not only **" radiation risks"**	Interested parties should be familiar with all risks (OHS, Environment security etc.)				See FP-1 3.1
5c	4.8	Should say **Risks i**nstead of **Safety**	Same as previous comment				"Safety" is used as a general term as interested parties may voice concerns that are not related to 'risk' just perceived safety concerns.
5d	4.16 b)	Change second a) to b) and remove the word **"radiation"** in front of **"risks".**	Grading considers risk and complexity (…and not only the radiation risk….) associated with the requirements for safety, health, security, environment etc.. A significant risk to safety or environment or security can be other than radiological in nature.(i.e. chemical safety, Occupational safety, security of harm from intruders etc.)				See FP-1 3.1
6	General comment	In addition to comment 4: There is much repetition of "safety related" and "safety" as adjectives and it is inconsistent in the document. Sometimes it is the "safety"	The management system integrates all requirements related to health, safety, security, quality, environment, society,	re-moved Safety related			See FP-1 3.1 - however in many elements of the standards the integrated

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		objective that is the focus and other times it is the totality of objectives. There is also differentiation of radiation risks and other safety risks.\n\nRelated comments are in 6a to 6d	economy etc. This should be stated up front and reinforced throughout the document. It is an the objective of the management system to ensure all these requirements are considered in an integrated way so impacts on safety can be understood and managed.	term.			management system is expected to cover all risks.
6a	1.10 line 1	Safety' means the protection of people and the environment against radiation risks and the safety of facilities and activities	Remove the second reference to radiation risks in the first sentence since that limits safety only to radiation risk safety, which is not the intent. It's all safety.				See FP-1 3.1
6b	4.31 line 1	Reword to**: Each process shall be developed and managed to ensure requirements are met without compromising safety**	"Meeting safety requirements" and" not compromising safety" are redundant expressions. Each process has a desired output. That output should be generated safely.	Yes			
6c	4.38 c)	Remove "**safety requirements**"	Vendors etc. have to be in compliance with all requirements				Accepted but standard's focus is safety
6d	4.40	Reword to " **adhere to all contracted requirements"**	Suppliers need to adhere to all requirements.				Edited in line with other ms comment as all the requirements may not be detailed in the contract but exist as a referenced standard.
7	General Comment	Revise the document to explicitly address Security provisions related to leadership and management as well as the Management System.\n\nSee 7a as well	The revision is an opportunity to strengthen the interface between security and safety as per INSAG 24.\n\nThe IAEA is missing an opportunity with DS-456 to explicitly address some of the		Will make links with security wherever possible within the document.		However, this is specifically a safety standard and further discussion and agreements will need to occur before security and

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			security elements related to leadership and management and to the management system. Security is only addressed in section 1.3 and in section 4.11 (in case of conflict with safety).				safety standards will be merged.
7a	4.11	Ensure security is included as a fundamental consideration of the Management system throughout the document	The management system integrates all requirements related to safety, security, quality, environment, economy, society therefore potential impacts of each of these on safety need to be identified and considered…		Requirement 7,8,9 specifically flags security as part of the integrated management system – see 4.9 b, 4.10, 4.16 g.		
8	Requirement no 2 and 3 on demonstration of leadership	Requirement 2: Demonstration of leadership by senior management Requirement 3: Demonstration of leadership for safety by managers at all levels	These two requirements are significant and important, but from a regulator's perspective the oversight of licensees, especially for small licensees dealing with activities, is very challenging.				Regulators need to recognize the graded approach and adapt their regulatory practices accordingly.
9	Background Pages 4-6	Consider including a figure showing the IAEA's framework supporting leadership and management for safety. Such a figure could show what the IAEA is aiming to achieve with this document at a glance. It would be ideal to include interfacing requirement and guidance documents somewhere in such a figure. It would also be helpful to have an illustration or diagram that shows how PDCA and the common elements combine to give the outline structure of managing for safety. 　　　A picture is worth a thousand words.	Improve clarity for end-user. The framework for supporting leadership and management is only loosely described on pages 4-7, there is a need for a diagram to better show this framework, and potentially one to show this an iterative or continuous improvement process.		Will include in guidance.		Agree that diagrams and pictures are very useful. Will include in guidance documents.

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10	1.12 line 6	The references in this section do not include GS-R-3 See 10 a and 10b as well	However, GS-G-3.1 is referenced. This document is written in support of GS-R-3 and refers to GS-R-3. So do the other guidance documents on MS. **Perhaps GS-R-3 should be the reference for the requirements of the management system and DS 456 is an overarching document, or at the same level, that focusses on leadership and management for safety and safety culture but not the "mechanics" of the management system.**	Edited			
10a	Pages 4-6, Sections 1.2 to 1.7	GS-R-3 was supported by guidance from GS-G-3.1 as well as several Safety Guides (1.7). DS-456 only refers to Safety Guides in general. If there any current or planned Safety Guides that will support DS-456, include references to them or explain that references are cited in relevant sections throughout the document.	Explain clearly what supporting documents end users can expect and how these will interact with DS456. (i.e. Details of additional IAEA guidance or supporting documents. On Page 6, section 1.7, the 3rd line does not adequately explain where or how the "…related safety guides" are referenced or used throughout this document.	Edited			
10b	1.12	Either include a reference to GS-R-3 or incorporate all requirements from GS-R-3 into DS456.	The current text states "This publication does not establish specific requirements in relation to … quality management or quality assurance… Relevant safety requirements are established in other IAEA safety standards [2–14]. See also Refs [15, 16]. Refs [2-14] do not contain any specific requirements for quality management or quality assurance. Refs [15, 16] are	Edited			

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

			guidance to GS-R-3, do not define any requirements and cannot stand alone.				
11	Page 6, 1.9 (d)	Clarify what "some aspects" are, or delete and write the following, "…effluents and the remediation of sites affected…"	Improve clarity.	edited			
12	Page 7, 1.13	Add quotations/italics/bolding to read: "This 'Safety Requirements' publication…", or "This *Safety Requirements* publication…"	Improve clarity. Suggest updating the IAEA writing standard for in-text citation of other IAEA documents to require single quote or bold font.				Following guidance on drafting standards.
13	Page 7, 1.12	Explain what "…other requirements in an integrated manner" means. Describe in more detail what "other" refers to, and what "integrated" means.	Avoid unnecessary misinterpretation and improve clarity.				The words are in common usage in those phrases
14	Page 8 & 9	Move footnote #6 (definition of "Senior Management") to page 8 in order to match the first use of the term under Requirement.	Senior management is defined in a footnote under Requirement 2, after being used earlier in Requirement 1. The definition should be defined immediately after the first occurrence of the term in Requirement 1.	edited			
15	1.3 Line 4	The experience from Member States of developing, **implementing,** maintaining and improving management systems was taken into account in the development of this safety standard. Also in 15a and 15 b	A Management System is not applied; it is put into effect or implemented. A standard is applied.	edited			
15a	Requirement 3	Change **"application"** of the management system to **"implementation** of the management system"	Same reason as earlier in comment 15.	edited			
15b	4.9 and 4.10	Replace **"applied"** with **"implemented"**	Same as earlier in comment 15	edited			
16	1.5a) line 2	Remove the word "individual".	This section is about leaders advocating their commitment to safety and setting the expectations for the organization via				Leaders also have to develop an individual's commit-

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			goals, strategies and plans. Individual commitment is covered in 1.5b)				ment
17	1.7 line 5	Other international standards or national standards may be used to **complement** the requirements of this publication.	These other standards are used to implement or meet the requirements of GSR-3 or DS456. They are therefore complementary		"Used in addition to"		
18	1.12	Add "life cycle activities of procurement, design, construction, commissioning, operation, decommissioning" to the list of specific requirements not addressed by this standard and add references to it in the glossary as necessary.	The management system applies to all life cycle activities of a nuclear facility as well as all requirements related to health, safety, security, environment, quality etc. Including these in the text of the standard is important as is having references for more specific requirements information.				IAEA glossary
19	2 General	Add information to be clear how the regulatory body will achieve the fundamental safety objective. The regulatory body shall make decisions and shall provide the oversight to ensure that fundamental objectives are achieved by the organizations.	Section 1.1 states that "this includes the regulatory body" It is not clear how the requirement # 1 is applicable to the regulatory body.				This is for interpretation. Guidance will be developed.
20	2.1	Senior management of organizations shall be responsible, as applicable, for	"as appropriate" is opened to interpretation and very subjective. There should be no good reason for senior management not to be responsible for the listed activities, unless the activities are not undertaken by the organization. The qualifier 'as applicable' will be more appropriate for this condition.		Edited "relevant to their accountabilitites"		
21	2.1	Senior management of organizations shall be accountable and responsible	The senior management of organizations are accountable for safety.		Edited		
22	2.1a) line 2	Remove line 2 "Also ensuring the quality of associated equipment important to safety	Quality is implied in the safe life cycle activities and should not be highlighted. Also, it is		Added "and activities"		This is important and aligns with other comments.

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			not just the "equipment important to safety" that requires quality assurance but all equipment and activities.					
23	2.1 d)	Consider replacing 'understanding' with a more measureable outcome. Perhaps "working knowledge"	'Ensuring that managers at all levels in the organization develop an understanding of radiation risks and potential consequences' is a noble principle, but it would be very difficult to measure 'understanding'.					"working knowledge' is a difficult translation whereas "understanding" can be translated into criteria by training or competences staff.
24	3.0	Remove "all " before interactions	"All "interactions can be vast and not practical in application	edited				
25	3.1 h)	Remove redundant words.	The sentence currently reads: "Senior management shall (h) Senior management, shall develop …"	edited				
26	3.2 line 3	Replace **"encourage"** with **"ensure"** and replace last part with**…"and shall take action for improvement"**	Supports the "continuous improvement" objective of the management system. Taking action as appropriate may be misleading.					Language of leadership uses encourage, coach, a leaders cannot 'ensure' in every circumstance
27	3.4 b)	Reword to " **The oversight and adherence to the management system and the development and support of institutional values and expectations for safety, throughout the organization by means of their decisions, statements and actions.**	Although advocating the adherence to the management system should be one of the many leadership elements, there should be more than just advocacy of adherence to the management system. Adherence to the management system should be ensured. An organization cannot change individuals' values but they must gain support for the institutional values.					Compliance and institutional values is identified as part of this requirements
28	3.6	Change "**oppose**" to **"correct"**	A situation or act is corrected.	Edited				

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			Opposing it doesn't necessarily fix it.				
29	3.7 a)	Shall ensure that all individuals achieve their work goals and perform their tasks safely …	'Encouraging' has an element of detachment of responsibility associated with it. Safety in performance needs to be ensured.				Language of leadership.
30	4.2	Senior management shall assign to a designated individual the responsibility and **authority** for coordinating the development, **implementation** and maintenance of the management system. The designated individual shall report directly to senior management. This assignment of responsibility to an individual shall not detract from the responsibility and accountability of senior management for the management system	This is a **solution** for managing the management system that is a bit prescriptive and is more of a "best practice". However, if it is to remain, it should be clear that current best practice in management system standards (including GS-R-3) places the responsibility and accountability on senior management for the management system.		Edited		
31	4.6	Replace **"specified"** to "**included**"	Specifying means it should have its own section when an inclusion can be sufficient.				Keep as written
32	Requirement 7	Change title to "Integration of the Management system"	There is no clear understanding of what "an element of management" is.	edited			
33	4.13	Any proposed changes, including organizational changes and cumulative changes, shall be analyzed with regard to their implications for safety. Required changes shall be (a) identified, including reason for change; (b) justified; (c) subject to review by relevant stakeholders; (d) reviewed by persons with knowledge of original intent and requirements; (e) approved for implementation; (f) implemented in accordance with the plan; and (g) reviewed for effectiveness.	Change control should not be limited to significant changes.				Keep as written for simplicity – detail can go into guidance

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34	4.14	Remove this clause	Contrary to the purpose of a standard, this clause proposes a means by which decision making can be assured to consider safety. It should be in guidance as a recommendation. Organizations could not routinely do this as it may prove onerous and costly		Edited to include "significant"		This is common practice and significant is defined by the organization.
35	Requirement 8 line 3	Replace **shall** with **may**	Graded approach is not mandatory and is used by an organization as they see necessary or applicable.				Graded approach is common to all IAEA standards
36	4.16	Add: d) With a graded approach, all requirements shall apply commensurate with risk and complexity.	One of the key criteria has been left out. A reference to IAEA-TECDOC-1740 should also be made.	Included			
37	4.17	Change to say "The management system shall be documented in an ordered set of documents and shall include, as a minimum…..	It is important to state the ordered set of documents. The requirements are flowing down.	edited			
38	4.18 line 3	It shall be ensured that users of documents are aware of and use **the** correct documents.	The terms "appropriate" and "correct" are redundant in this context	edited			
39	4.21	Retention times of **all** records and associated test materials and specimens shall be established consistent with all requirements. This includes ,but is not limited to business, statutory, regulatory and knowledge management requirements	Retention times of records is not only established to meet statutory requirements and for knowledge management purposes. Records with the following criteria are also required for retention: (a) those that would be of value in demonstrating capability for safe operation; (b) those that would be required to maintain, repair, replace, or modify an item;				Organizations will establish their criteria for retention times in accordance to their regulations and the needs of the organization.

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			(c) those that would be of value in determining the cause of an accident, malfunction, or unscheduled occurrence; (d) those required to provide baseline data for periodic inspection; (e) those demonstrating that individuals are competent to perform their work; (f) those for ensuring configuration management; (g) those that would be of value in decommissioning an item.				
40	Requirement 10 and 4.22	The description of the requirement is very similar to requirement 4.22 Reword requirement text as follows: **Senior management shall ensure the availability of the resources necessary to carry out the activities of the organization safely.**	Section 4.22 can follow this text and complement it	Edited on basis of Russian comment			
41	4.26	Competences to be maintained in-house by the organization shall include competences for leadership at all levels and for developing and sustaining a safety culture, and expertise to understand and maintain the design basis and the safety case of the facility or activity, in particular for reviewing and approving activities conducted by external resources.	One of the primary driver behind the need for competences to be maintained in-house is so that the licensee can discharge its responsibility for safety nd not relegate it to external parties due to lack of internal competences.				Acknowledgement that some organisations size and point of lifecycle will mean that some competences will be from external to the organization through contracts or agreements.
42	4.26	More competencies should be added such as , "competency for implementing, assessing and improving the management system"	The Management System plays a key role in ensuring good safety performance Identifying some competencies means others are, by default,				Detail can be included in guidance.

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		not included.					
43	4.27	A systematic approach to training process shall be apply to ensure a logical progression from the identification of the competences required to the design, development and implementation of the training to achieve these competences	There should be a correlation between training and competence				Details can be included in guidance.
44	4.28	The clause is a bit confusing: Is it expertise in HF, OF, process and plant safety requirements that will be part of leadership and management development or expertise in HF and OF that is applied as part of development of process and plant safety requirements	There is a lot more than HF and OF required as part of leadership and management development. It should also include expertise in management systems for leaders and managers.	edited			Will be included in guidance
45	4.29	Remove **"in a knowledge management system"**	There's no argument about manage the resource of corporate knowledge.. saying "in a KMS is too prescritptive….it is a good practice	edited			
46	4.30	This whole section is written as a solution of how to ensure the proper management of processes and activities. It would be better worded as desired outcomes. For example: **4.30 The management of processes and activities shall ensure that there are measures in place for…..: a to j**	This describes **the "process owner" model** for management of processes. There are others that also work. The importance is the outcomes, not how it is done.	edited			
47	4.38	Add: Storage and handling of items shall be defined and controlled to ensure continued item integrity.	Storage and handling of items is not addressed and is very important.				4.34„Each activity that could have implications for safety shall be carried out under controlled conditions" Storage and handling would be an ‚activity'
48	4.38	Add information regarding the evaluation of supplier's ability to deliver a technically acceptable product or service.	Selection of vendors only by the basis of management system is not enough. See com-				Includes performance and the

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			ment 90				qualification would include the competences
49	4.38 c)	Verification that vendors, suppliers, contractors and lower tier suppliers and subcontractors understand, and are in compliance with, requirements relating to the items, products of services that they provide.	The current wording in the requirement does not address the need to flow down requirements to lower tier suppliers and subcontractors from whom contractors and suppliers may procure.	edited			
50	4.38 h)	Verification and validation that items, products and services supplied are authentic and meet the organization's specifications.	Counterfeit, fraudulent and suspect items need to be addressed. Also, include a reference to TECDOC-1169.	ADD-ED			
51	4.39	Remove this clause or reword	The graded approach is used by the licensee in setting the specifications and requirements a supplier must meet. They don't need to inform a supplier on how to grade because they have already done it.		Removed		
52	Requirement 12	Add a reference to TECDOC-919.	Details of supply chain management are found in TECDOC-919.	added			
53	4.43	Second sentence can be removed	These assessments are part of the "safety analysis" not part of performance assessment for improvement.				Kept for clarity
54	4.44	Add **"problems"**	"Problems" is a broader category of non-conformance related to elsewhere in this document and should be included in this section				Non-conformities and issues are more normal terms.
55	4.45	Add a reference to IAEA-TECDOC-1125.	Details of self-assessment are found in IAEA-TECDOC-1125.	added			
56	4.45b)	Redundant with a)	It is to confirm that the management system is performing to ensure safe accomplishment				Agreed by kept for emphasis

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			of objectives				
57	4.46 b)	Change "by" to "in"	Safety requirements are integrated in the management system	edited			
58	4.51 a)	Add a clause for sharing of experience with external organizations.	This clause refers to obtaining experience from outside the organization. However, there are no clauses addressing the sharing of experience to outside organizations. If there are no requirements for sharing, there will be no avenue for anyone to obtain experience.	Added but participation is the decision of the organisation and govenrment of the MS			
59	Section 1.6, para 2	a) By the registrant or licensee, as a basis for the management system for ensuring leadership and management on the part of organizations and managers responsible for facilities and activities2 that give rise to radiation … b) By the regulatory body and other relevant governmental organizations, as a basis for their own management system in place for meeting their responsibilities for arrangements4 in relation to leadership and management in conjunction with the requirements established in Ref. [2].	To provide the same level of clarity which was present in GS-R-3 as to the applicability of the standard to regulatory bodies **AND** to explicitly emphasize the link to the management system called for in section 1.5 and subsequently expected to be in place at the licensees (1.6(a)) and the regulatory body (1.6(b))				Kept as paragraph includes management and leadership as combined activities.
60	Section 1.5, b)	establishing a management system that maintains a strong safety culture to ensure that there are organizational and individual commitments to giving safety issues the attention warranted by their significance.	Developing a safety culture is part of establishing the management system.	edited			Safety culture also requires leadership

Relevance: ☐ 1 – Essentials ☐ 2 – Clarification ☐ 3 – Wording/Editorial

#	Section						
61	Section 2. General comment	**General Comment:** Requirements listed within sections a - f are all directed to the facility or activity. Difficult to see the direct applicability to the regulatory body.	May be an addition of 2.2 which states that a regulatory body has a system in place to ensure that all criteria listed in section 2.1 are adequately met.		Accepted and additional requirement 2.2 added		
62	Section 3.1 Footnote#6	Senior management' means the person or persons who are accountable for directing, controlling and assessing an organization at the highest level.	Senior management of the regulatory body does not meet the terms established in the licence.				Accountable for
63	Section 4.14	Arrangements shall be established in the management system for conducting reviews before decisions important to safety are made. The requirements on the independent nature of the review and on the competences of the reviewers shall be specified in the management system.	Not sure if an independent review will be read as a third party review. If this means a third party review, it will not be possible to implement. Need clarity on what it means.		edited		
64	Section: Requirement 11:(description)	**Processes and activities shall be developed and managed to achieve the organization's safety goals.**	May read better.	edited			
65	Section 4.30(h)	Monitoring and reporting on the performance of process;	The goal is to assess the process. Not to assess the performance of people in the process.	edited			

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

NUSSC Comments on IAEA Draft Safety Requirement GSR Part 2, "Leadership and Management for Safety" (DS456)

	COMMENTS BY REVIEWER			RESOLUTION			
	Reviewer: U.S. Nuclear Regulatory Commission **Country/Organization:** USA		**Date:** 22 May 2015				
Comment No.	**Page / Section / Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/ rejection**
		COMMENTS ON CONTENT					
1	General	The proposed general safety requirements and the shall statements included are most appropriate for large operating organizations, but not necessarily small operating organizations with a dozen or fewer occupational workers. Many medical and industrial organizations are too small to have boards of directors or site VPs. Yet, leadership and management of safety is equally application to these organizations. Consider how the requirements included in DS456 will apply to the thousands of small materials organizations or acknowledge where certain requirements might not apply to those operating organizations.	Inclusiveness.				Graded approach clear
2	Pg 7 / 1.9	"The requirements in this publication also apply in relation to the functions of the regulatory body." Add a disclaimer/footnote with words to the effect "…consistent	Adds clarity, reference		Ref GSR part 1		2.2 has been added

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

Reviewer: U.S. Nuclear Regulatory Commission
Country/Organization: USA

Date: 22 May 2015

Comment No.	Page / Section / Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/ rejection
		with the requirements delineated in GSR Part 1 "Governmental, Legal and Regulatory Framework for Safety General Safety Requirements."'					
3	General comment	Para 1.11 states: "1.11. This publication is applicable to organizations (registrants and licensees) throughout the lifetime of facilities and for the entire duration of activities, for all operational states and for accident conditions, and in a <u>nuclear or radiological emergency</u>. Para 2.1 (f) states: Ensuring <u>that arrangements are made for preparedness and response for a nuclear or radiological emergency</u>	Leadership and Management responsibilities and requirements under emergency are ambiguous and need to be clearly addressed in terms of planning, coordination, communication, transparency, and dedication to protect workers, the public, and the environment. Training and qualification of managers in such areas, as well as in areas of emotional intelligence and socio-economic aspects under stressful emergency situations, should be emphasized.	Edited in line with IEC comments			
4	8 / Reqt. 1	"Requirement 1: Achieving the fundamental safety objective Senior management shall ensure that the fundamental safety objective of protecting people and the	The text "without unduly limiting the operation of facilities or the conduct of activities that give rise to radiation risks" implies	edited			

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

		COMMENTS BY REVIEWER		RESOLUTION			
Reviewer: U.S. Nuclear Regulatory Commission							
Country/Organization: USA			**Date:** 22 May 2015				
Comment No.	Page / Section / Line No.	Proposed new text	Reason	Ac-cepted	Accepted, but modified as fol-lows	Rejected	Reason for modi-fication/ rejection
		environment from harmful effects of ionizing radiation is achieved ~~with-out unduly limiting the operation of facilities or the conduct of activities that give rise to radiation risks~~."	that it may not be neces-sary to ensure safety if it limits the operation of the facility.				
5	9/ Foot-note 6 /last line	"plant manager, top manager, chief regulator, site vice-president, man-aging director, ~~and~~ laboratory direc-tor, and owner.	Many material licensees or registrants are owned and operated by very small staffs. These may include medical/dental clinics as well as indus-trial radiographers.	edited			
6	9 / 3.2	"Senior management shall encour-age open communication and transparency in decision-making within the organization."		edited			
7	10 / Reqt. 3	DS456 addresses, under Require-ment #3, Safety Culture. However, it lacks aspects of leadership safety culture regarding establishing a culture to facilitate, encourage, and protect whistle blowers and the re-porting of differing professional views without fear of retribution or reprisal.	These aspects of safety culture are important, particularly to minimize accidents.				Whistle blower poli-cy is difficult. We would aim to tackle this in the guidance or in a specific doc-ument.
8	11/4.3	Senior management shall ~~establish arrangements for the~~ ensure devel-opment of goals, strategies, plans and objectives~~, with~~ in consultation	Sentence wording was not clear.		edited		

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

COMMENTS BY REVIEWER				RESOLUTION			
Reviewer: U.S. Nuclear Regulatory Commission **Country/Organization:** USA			**Date:** 22 May 2015				
Comment No.	**Page / Section / Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/ rejection**
		~~of and feedback of information~~ with, and using feedback from, other individuals in the organization.					
9	15/4.26	Competences to be maintained in-house by the organization shall include competences for leadership at all levels ~~and~~, for developing and sustaining a positive safety culture, and for expertise ~~to~~ in understanding and maintaining the design basis and ~~the~~ safety ~~case~~ of the facility or activity.	Sentence wording was not clear. Use of the term "safety case" is not familiar.		edited		
10	16 / 4.29	4.29 mentions a KM system. Consider developing that part of the document more, or adding a reference.			edited		
11	21 / 5.2(c)	A common understanding of safety and safety culture	The focus is on safety culture in this area of the Guide and it is necessary for a common understanding of not only safety, but safety culture, as well.	edited			
12	General	Consider using "positive safety culture" throughout, rather than "strong safety culture"	Use of the term "strong" can be subjective				Common term in other IAEA documents
		EDITORIAL COMMENTS					
13	General	Formatting is incorrect in several		edited			

Relevance: [1 – Essentials] [2 – Clarification] [3 – Wording/Editorial]

COMMENTS BY REVIEWER				RESOLUTION			
Reviewer: U.S. Nuclear Regulatory Commission							
Country/Organization: USA			Date: 22 May 2015				
Comment No.	Page / Section / Line No.	Proposed new text	Reason	Ac-cepted	Accepted, but modified as fol-lows	Rejected	Reason for modi-fication/ rejection
		locations with indentations and numbering					
14	5/1.6 (a)	a) By the registrant or licensee, for ensuring leadership and manage-ment on the part of organizations and managers responsible for facili-ties and activities[2] that give rise to radiation risks.[3]By the registrant or licensee, to specify to a vendor or supplier of products and equipment, or a contractor for services, and to any other relevant organization, any requirements that must be met by the supplier's management system. By the regulatory body, as a part of the basis for the regulation of facili-ties and activities;	Editorial Corrections	edited			
15	7/1.9 (h)	h) The decommissioning (or clo-sure) of facilities.	Editorial	edited			
16	8/1.13/last line	Section 5 establishes requirements on the organization to establish a strong safety culture.	Editorial and consistency. For example, Organiza-tion and organization are both used in same con-text in document.	edited			
17	8/2.1(a)	a) Ensuring the safe siting and site evaluation, design, construction, commissioning, operation and de-commissioning (or closure) of facili-ties. Also ensuring the quality of the	Editorial	edited			

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

Comment No.	Page / Section / Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/ rejection
		associated equipment important to safety.					
18	9/Req 2	**The senior management of the organization shall demonstrate leadership for safety. Senior management[6] shall advocate an approach to safety that encompasses all interactions between human, technology and the organization.**	Editorial – entire section emphasized	edited			
19	9/3.1(f)	(f) Ensure that priorities and accountabilities for safety guide decision making are established at all levels.	Clarification – previous statement was incomplete				Exisiting paragraph clear
20	9/3.1(h)	(h) Develop an organization that is able to appropriately prepare and respond to incidents and accidents,	Clarification and alignment with other bullets	edited			
21	14/4.17 (h)	(h) A description of the organizational processes, with supporting information that explains how work is to be prepared, reviewed, performed, recorded and assessed and how safety, quality and security are to be assured.	Editorial	edited			
22	17/ Req.12	**Requirement 12: Management of the supply chain**	Editorial	edited			
23	18/ Req 13	**Requirement 13: Measurement, assessment and improvement of**	Editorial	edited			

Relevance: 1 – Essentials 2 – Clarification 3 – Wording/Editorial

COMMENTS BY REVIEWER				RESOLUTION			
Reviewer: U.S. Nuclear Regulatory Commission **Country/Organization:** USA			**Date:** 22 May 2015				
Comment No.	**Page / Section / Line No.**	**Proposed new text**	**Reason**	**Ac- cepted**	**Accepted, but modified as fol- lows**	**Rejected**	**Reason for modi- fication/ rejection**
		the management system					

Relevance: 1 – Essentials 2 – Clarification 3 – Wording/Editorial

TITLE: DS456 Leadership and Management for Safety (17 March 2015)

		COMMENTS BY REVIEWER		RESOLUTION			
Country/Organization: FRANCE Date: Pages							
Com- ment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Rejected	Reason for modifica- tion/rejection
1.	General	As GSR Part 2 will be applicable to organization running any activity or facility, as well as regulators, review each requirement to check whether it is meaningful for all activities and facilities. Are those requirements also relevant for contractors/service providers, especially those for which nuclear business is only a marginal part of their business ?	Some requirements seems inappropriate for small business (a handful of people or even single-run companies) or small risk activities (X-rays). For example, is the requirement on leadership for safety meaningful for a self-employed dentist with an X-Ray ?				Graded approach applicable
2.	General	The management system is not limited to safety do "management system for safety" should not be used.	The management system scope is broad. It includes but is not limited to safety (see requirement 7).				Focus on safety within the integrated system
3.	General	Clarify link between leadership and management system. Clarify what is leadership…	Current requirements are mixing the concepts. The concept of leadership for safety seems not so clear…		Added paragraph in section requirement 2		
4.	General	Clarify link between safety culture and management system and safety culture and leadership	Current requirements are mixing the concepts		edited		
5.			**Considering above comments, further work is needed before submission to CSS.**				
6.	1.5	This publication establishes requirements ~~for ensuring safety~~ on the basis of interrelated concepts of:	Superfluous				Focus on safety
7.	1.5 a)		What is the difference between "goals" and "objectives" ? If no substantial difference, one word is enough….				Common phrase

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

COMMENTS BY REVIEWER				RESOLUTION			
Country/Organization: FRANCE Date: Pages							
Com- ment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Rejected	Reason for modifica- tion/rejection
8.	1.5 b)	management ~~for safety~~, comprising coordinated activities to direct and control an organization,	Adding "for safety" is restrictive as the management system goal is broader than only safety. The end of 1.5 b) is however clear on safety implications of the management system.				Title of section
9.	1.5 b)	comprising coordinated activities to direct and control an organization, ~~and is a formal, authorized function~~ for ensuring that an organization operates efficiently…	Such a detail is not needed		Edited to change coordination to integration		
10.	1.5 b)	and that work is completed in accordance with requirements, plans and resources <u>and any devia- tion is adressed</u>.	Deviation management is a key part of a management systeù		Edited with "ac- tion"		
11.	1.6 a)	a) By the registrant or licensee, for ensuring lead- ership and management on the part of organiza- tions and managers responsible for facilities and activities that give rise to radiation risks <u>:</u> <u>b)</u> By the registrant or licensee, to specify to a vendor or supplier of products and equipment, or a contractor for services, and to any other relevant organization, any requirements that must be met by the supplier's management system<u>..</u> <u>c)</u> By the regulatory body, as a part of the basis for the regulation of facilities and activities;	Clarification (by creating a bullet list)	edited			
12.	1.12	This publication establishes requirements for man- aging the fulfilment of ~~other~~ <u>non-safety related</u> requirements in an integrated manner.	Clarification		Replaced with GS- R-3 version		

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

COMMENTS BY REVIEWER Country/Organization: FRANCE				RESOLUTION			
Com-ment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi-fied as follows	Rejected	Reason for modifica-tion/rejection
13.	1.12	This publication does not establish specific re-quirements in relation to nuclear safety, radiation protection, protection of the environment, quality management or quality assurance, nuclear security, or societal and economic requirements and rec-ommendations. Relevant Specific safety require-ments are established in other IAEA safety stand-ards [2–14]….	It is not true as it establishes specific requirements applicable to a wide range of activities…	Edited	Replaced with GS-R-3 version		
14.	2.1 a)	a) Ensuring the safe siting and site evaluation, design, construction, commissioning, operation and decommissioning (or closure) of facilities.	What means a safe site evalua-tion ?	edited			
15.	2.1 a)	Also ensuring the quality of the associated equip-ment important to safety.	No need for such detail as it is already encompassed by safe construction and operation.				Kept in accordance with advice
16.	2.1 c)	c) Ensuring the safe management and control of all radioactive sources and radiation generators;	Already covered by 2.1 b)	edited			
17.	2.1 e)	e) Ensuring the provision for adequate resources and funding on the long term, including for the long term management (including disposal) of radioactive waste, with due consideration given to the protection of future generations and decommis-sioning;	Not needed Funding for decommissioning should also be included. The initial text was too narrow in the way that it requested the senior management to provision only for resources for long term management of radioactive waste, although there may be need to provision for other type of long term charges (e.g. dis-mantling, major retrofit)	edited			

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

COMMENTS BY REVIEWER				RESOLUTION			
Country/Organization: FRANCE Date: Pages							
Com-ment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi-fied as follows	Rejected	Reason for modifica-tion/rejection
18.	Require-quire-ment 2	The senior management of the organization shall demonstrate leadership for safety. ~~Senior management[6] shall advocate an approach to safety that encompasses all interactions between human, technology and the organization.~~	Not an overarching requirement. May be transferred to 3.1 bullet list	edited			
19.	3.1	Senior management shall (a) Establish, adhere to and advocate individual and institutional values that demonstrate leadership for safety. ~~(b) Establish behavioural expectations as part of~~ and a strong safety culture.	Combine a) and b) as both are advocating. b) is covered in 5.1				Separated for clarity
20.	3.1 (b)	(b) Establish ~~behavioural expectations as part of a strong safety culture~~ and enforce the safety policy of the organization. ~~(d) Establish and communicate that the policy on~~ , acknowledging that safety is an overriding priority of the organization, ~~in accordance with the highest standards of safety that can reasonably be achieved.~~	The safety policy should be mentioned as it can't only appear in (d). Combine with d)		edited		
21.	3.1 (f)	~~(f) Ensure that the priorities and accountabilities for safety guide decision making at all levels.~~	Redundant with (d) and (c). Furthermore, it is dubious that the top management is able to ensure itself that this is done at all level of the organization		edited		

Relevance: 1 – Essentials 2 – Clarification 3 – Wording/Editorial

		COMMENTS BY REVIEWER		RESOLUTION			
Country/Organization: FRANCE Date: Pages							
Com- ment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Rejected	Reason for modifica- tion/rejection
22.	3.1 (g)	(g) Develop and maintain leadership competences at all levels in the organization, including compe- tences for leadership in dealing with incidents and nuclear and radiological emergencies as well as unanticipated events.	It is dubious that the top man- agement is able to develop and maintain competences by itself If kept or reformulated, at least delete "as well as unanticipated events" as it is redundant with nuclear or radiological emergen- cies.				Management will include the HR de- partment and train- ing
23.	3.1 (h)	(h) Senior management, shall develop an organiza- tion that is able to appropriately prepare and re- spond to incidents and accidents,	This is not leadership. Furthermore, it is too narrow to restrain the responsibility to put in place an appropriate organiza- tion to preparation and response to incidents and accidents		Edited to focus on people		
24.	3.2	Senior management shall encourage open commu- nication within the organization. Senior manage- ment shall seek information on the effectiveness of managers at all levels in the organization in achieving, ensuring and enhancing safety, and shall take action as appropriate.	Superfluous		edited		
25.	3.3	Senior management shall ensure that there is timely and effective communication and consul- tation with interested parties7 and shall ensure that relevant information is disseminated to them.	This is not leadership. Redundant with requirement 6		edited		
26.	Require- quire- ment 3	Managers at all levels in the organization shall, taking into account their duties, demonstrate lead- ership for safety…	Clarification		edited		

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

COMMENTS BY REVIEWER				RESOLUTION			
Country/Organization: FRANCE Date: Pages							
Com-ment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi-fied as follows	Rejected	Reason for modifica-tion/rejection
27.	Require-quire-ment 3	Managers at all levels in the organization shall demonstrate leadership for safety ~~in application of the management system, establishing continuous improvement, and in the fostering of a strong safe-ty culture~~.	This is not leadership. Manage-ment system and safety culture are addressed in other require-ments				
28.	3.4	~~3.4 Managers at all levels in the organization shall ensure that their leadership includes: (a) The involvement of teams and individuals in the organization in the application and continuous improvement of the management system to ensure safety (b) The advocacy of adherence to the management system and development of individual and institu-tional values and expectations for safety, through-out the organization by means of their decisions, statements and actions.~~	This is not leadership, or in a very indirect way.		edited		
29.		RESPONSIBILITY FOR THE MANAGE-MENT SYSTEM ~~FOR SAFETY~~	The purpose of the management system is broader than safety (see requirement 7)		Titled changed		
30.	Require-quire-ment 4	Senior management shall <u>have</u> ~~establish, apply, maintain and continuously improve a~~ <u>the</u> manage-ment system ~~for ensuring safety~~ <u>established</u>.	Maintenance and improvement of the management is addressed in requirement 13. It won't be the senior manage-ment that will establish the man-agement system by itself (this is acknowledged by paragraph 4.2). But it is the senior management that retain this responsibility The purpose of the management system is broader than safety		Edited to remove apply		Focus on safety

Relevance: | 1 – Essentials | 2 – Clarification | 3 – Wording/Editorial |

COMMENTS BY REVIEWER				RESOLUTION			
Country/Organization: FRANCE Date: Pages							
Com- ment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Rejected	Reason for modifica- tion/rejection
31.	4.1	Senior management shall have ~~establish, apply and maintain~~ the management system established, in order to ensure safety and to meet regulatory and other requirements. Senior management shall retain overall responsibility for the management system.	Superfluous. For consistency with previous comment.		edited		
32.	4.2	~~Senior management shall assign to a designated individual the responsibility for coordinating the development, application and maintenance of the management system. The designated individual shall be given the necessary authority to discharge this responsibility and shall be given direct access to senior management. This assignment of respon- sibility to an individual shall not detract from the responsibility and accountability of line manage- ment8 for safety.~~	Too detailed for a requirement applicable to any size of organi- zation (even self employed com- panies) …. If kept, the sentence should be modified so that the designated individual has both authority				Included in GSR 3
33.	Require- quire- ment 5		What is the difference between "goals" and "objectives" ? If no substantial difference, one word is enough…. Comment also valid for the fol- lowing paragraph.				Common phraseolo- gy
34.	4.3	~~Senior management shall establish arrangements for the development of goals, strategies, plans and objectives, with consultation of and feedback of information from individuals in the organization.~~ The goals, strategies, plans and objectives of the organization shall be developed in such a manner that safety is not compromised by other priorities.	Duplicate the overarching re- quirement or too detailed for a overarching requirement				The establishment that safety is not compromised is accepted as needing to be included in DS456

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

		COMMENTS BY REVIEWER			RESOLUTION		
Country/Organization: FRANCE Date: Pages							
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
35.	4.4	Senior management shall make arrangements for the establishment ensure that, where relevant, of measurable safety objectives in line with the goals, strategies and plans are established at various levels in the organization.	Same formulation as 4.3 that would more accurately reflect what is expected from the senior management (make arrangements rather that make certain by itself)		edited		
36.	4.5	Senior management shall make arrangements for the ensure that the execution of plans is periodically reviewed of plans against the safety objectives and goals, and that actions are taken where necessary to address any deviations from the plans.	Same formulation as 4.3 that would more accurately reflect what is expected from the senior management (make arrangements rather that make certain by itself)		edited		
37.	Requirement 6 and associated requirements	Requirement 6: Interactions with interested parties Interactions with interested parties shall be integrated into the management system. Senior management shall make arrangements to ensure appropriate interactions with interested parties	This part deals with the responsibilities of the senior management, not the content of the management system. Reformulate (as proposed) or transfer				Advice of consultant meeting place requirement 6 in this section
38.	4.8	Senior management shall make arrangements to consider in its decision making processes the concerns and expectations of interested parties in relation to safety and to take appropriate actions.	It's one of the senior management responsibility to consider the concerns and expectations of interested parties in its decision making process. It is not enough for the senior management to make arrangement in that case. Last words in paragraph are superfluous		Additional paragraph added to make responsibility for identifying interaction the responsibility of senior managers		
39.	4.9		It would be better to have the two sentences of 4.9 in 2 paragraphs.				Unclear which paragraph should be split.

Relevance: 1 – Essentials 2 – Clarification 3 – Wording/Editorial

COMMENTS BY REVIEWER				RESOLUTION			
Country/Organization: FRANCE Date: Pages							
Com-ment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi-fied as follows	Rejected	Reason for modifica-tion/rejection
40.	4.10 (a)	(a) Bringing together in a coherent manner all the requirements and processes for managing the or-ganization and its activities for safety;	The purpose of the management system is broader than safety (see requirement 7)	edited			
41.	4.10 (b)	(b) Describing the arrangements made for man-agement for safety for managing the organization and its activities in order to achieve a high level of safety related performance, and describing the planned and systematic actions necessary to pro-vide confidence that all requirements are met;	To increase consistency with 6.10 (a). The purpose of the management system is broader than safety (see requirement 7)	edited			
42.	4.11		Deletion may be considered as 4.11 doesn't had much since it is already covered by 4.10 a) and c) (safety/security interfaces is one of the requirements that should be brought together in a coherent manner in the management sys-tem)				Highlighting securi-ty is part oof the plan to ensure secu-rity and safety do not compromise one another
43.	Require-quire-ment 8	Requirement 8: Graded approach to the definition and application of the requirements for provisions of the management system The requirements for provisions of the manage-ment system shall be developed and applied by using a graded approach based on the safety signif-icance of each activity and process.	Grading should first be consid-ered when defining the provi-sions of the management system. Provisions is a better word as requirement have to be imple-mented.		edited		

Relevance: 1 – Essentials 2 – Clarification 3 – Wording/Editorial

COMMENTS BY REVIEWER Country/Organization: FRANCE Date: Pages				RESOLUTION			
Com-ment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi-fied as follows	Rejected	Reason for modifica-tion/rejection
44.	4.17	The documentation of the management system shall include, as a minimum, the following: (a) The policy statements of the organization; (b) A safety policy, stating that achieving the fundamental safety objective of protecting people and the environment from harmful effects of ionizing radiation has an overriding priority; (c) A statement of the values and expectations of senior management;	(a) (b) and (c) should be grouped as there are not much differences and not enough for a requirement level		Edited in line with multiple comments		
45.	4.17 (e)	(e) A description of how the management system the provisions to complyies with the all regulatory requirements on the organization;	Is (e) part of the management system ? Considering proposed (e), (h) may be deleted or at least summarized.				How Compliance will be achieved is considered important in the management system.
46.	4.17 (f) (g)		(f) and (g) seem very similar. Merging both is suggested.		Edited in line with multiple comments		
47.	4.23	Senior management shall make arrangements to ensure that the organization has and maintains access to the full range of competences and resources necessary — including where necessary resources from providers of external expert support — to conduct its activities	Clarification		edited		
48.	4.26	Competences to be maintained in-house by the organization shall include competences for leadership at all levels and for developing and sustaining a safety culture, and expertise to understand and maintain the design basis and the safety case of the facility or activity.	Leadership and safety culture are addressed in other requirements.				Includes soft skills and technical skills specifically

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

COMMENTS BY REVIEWER				RESOLUTION			
Country/Organization: FRANCE Date: Pages							
Com-ment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi-fied as follows	Rejected	Reason for modifica-tion/rejection
49.	4.26	Competences to be maintained in-house by the organization shall include competences…to under-stand and maintain the ~~design basis and the~~ safety case of the facility or activity.	The safety case includes the design basis…				Safety cases have specific interpretive limits and conditions based on the design base and type of equipment installed.
50.	4.28	Delete 4.28	Too specific. Other competences such as thermohydraulics, reac-tors physiscs, mechanical re-sistance, radiation safety are not mentioned….	deleted			
51.	4.29	The information and knowledge of the organiza-tion shall be managed as a resource ~~in a knowledge management system~~.	Superfluous		edited		
52.	Require-quire-ment 13	~~MEASUREMENT,~~ ASSESSMENT AND IM-PROVEMENT OF THE MANAGEMENT SYS-TEM Requirement -13: ~~Measurement,~~ assessment and improvement of the management system The effectiveness of the management system shall be ~~measured,~~ assessed and improved so as to en-hance safety related performance.	Measurement is one way of assessment		edited		GSR3
53.	4.41	The effectiveness of the management system shall be monitored ~~and measured~~ to confirm the ability of the organization to achieve the results intend-ed,…	Superfluous (see previous com-ment)				Measurement and assessment describes two activities.
54.	4.42	Performance indicators shall, where practicable, be developed and used in order to measure the effec-tiveness of the management system	Performance indicators may not be always relevant				Selection should cater for this

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

		COMMENTS BY REVIEWER		RESOLUTION			
Country/Organization: FRANCE Date: Pages							
Com-ment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi-fied as follows	Rejected	Reason for modifica-tion/rejection
55.	4.43	All processes shall be periodically evaluated for their effectiveness <u>and their ability to ensure safe-ty</u>.~~.~~	Effectiveness is not enough. Whether processes enable to achieve safety is also to be as-sessed (see 4.45).	edited			
56.	4.43	~~Assessments shall be made of radiation risks aris-ing from particular processes and activities~~	Unclear. Covered by suggested modifica-tion to 4.43				Added for clarity
57.	4.45	~~Self-assessment of the management system for safety shall be performed by managers and by individuals at all levels in the organization~~ <u>Manag-ers shall carry out self-assessment on the perfor-mance of work for which they are responsible</u> with the following purposes…	It seems very dubious that any individual in the organization will perform a self-assessment. Proposition to clarify that it falls under the responsibility of the managers and to specify the scope of the self-assessment.				Self-assessment required.
58.	4.45 (c)	(c) ~~to enhance leadership and safety culture and~~ to ensure the effectiveness of processes and activities;	Self-assessment <u>of the manage-ment system</u> is not directed at leadership and safety culture. Self-assessment of practices may help assess leadership and safety culture….				Self-assessment includes leadership and safety culture
59.	4.46	Independent assessments (including audits) of the management system ~~for safety~~, shall be conducted	See previous comment				Independent assess-ment required
60.	4.46 (c)	~~(c) Leadership performance and safety culture;~~	See previous comment				Self-assessment includes leadership and safety culture
61.	4.50		Bullet list numbering, starting at (k) is strange…	edited			
62.	Require-quire-ment 14	Requirement14: ~~Continuous improvement of~~ safe-ty culture .	Superfluous		edited		In line with other comments

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

COMMENTS BY REVIEWER				RESOLUTION			
Country/Organization: FRANCE Date: Pages							
Com-ment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi-fied as follows	Rejected	Reason for modifica-tion/rejection
63.	Require-quire-ment 14	Individuals in the organization, from senior man-agement downwards, shall demonstrate ~~leadership by fostering~~ safety culture. The management sys-tem shall be used to foster and support a strong safety culture	Do not mix leadership and safety culture as leadership is for man-agers and safety culture for eve-rybody.		edited		
64.	5.1	Attitudes and behaviours that contribute to a strong safety culture shall be specified ~~and developed through leadership and use of~~ <u>in</u> the management system <u>and advocated by managers, including through their own practices.</u>	Clarification. Avoid mixing safety culture and leadership.		edited		
65.	5.2	All individuals in the organization shall contribute to fostering and supporting a strong safety culture, by ~~using the management system to provide and support~~ing the following:	Redundant with requirement 14 and 5.1		edited		
66.	5.2 (a) (c) (j)	(a) A <u>common understanding of key aspects of safety and a</u> collective commitment to safety by teams and individuals; ~~(c) A common understanding of safety;~~ ~~(j) A common understanding of the key aspects of safety and safety culture within the organization;~~	Merge (a) and (c) and (j) : same idea		edited		Two specific areas of safety culture

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

COMMENTS BY REVIEWER				RESOLUTION			
Country/Organization: FRANCE			Date:				
Pages							
Com-ment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi-fied as follows	Rejected	Reason for modifica-tion/rejection
67.	5.2 (d), (e), (i)	(d) <u>Measures to encourage a questioning and learn-ing attitude at all levels in the organization and to discourage complacency with regard to safety. This shall foster</u> A culture that encourages trust, collaboration and communication, and that values the reporting of issues relating to <u>structures, sys-tems and components,</u> human and organizational factors; ~~(e) The reporting of any deficiencies in structures, systems and components to avoid degradation of safety;~~ ~~(i) Measures to encourage a questioning and learn-ing attitude at all levels in the organization and to discourage complacency with regard to safety;~~	Merge (d), (e), (i) : same idea (frank communication)				Separate ideas in-cluded to ensure they areunderstood
68.	5.2 (l)	~~(l) Risk informed decision making in all activities~~.	Safety culture is more than that….				Part of whole
69.	5.4		5.4 would be better located under requirement 7, before 4.9				Visibility part of safety culture
70.	Require-quire-ment 15 and associate require-ments	Refocus requirement on assessment of safety cul-ture, not assessment of leadership					Leadership essential part of assessment of safety culture
71.	5.5	Delete 5.5	Too detailed for a requirement				Feedback essential as part of the safety culture development
/							

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

Japan NUSSC Comments on DS456 "Leadership and Management for Safety"

No.	Pa-ra/Line No.	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Reject-ed	Reason for mod-if./rejection
		COMMENTS BY REVIEWER Reviewer: Japan NUSSC Page 1 of Country/Organization: Japan/NRA Date: 22 May 2015		RESOLUTION			
1.	1.3/2	Add the footnote to the word "economic ele-ment", as same as the footnote 3 of para.1.1, GS-R-3 "Economic objectives are included in the list of elements that have to be integrated, as it is recognized that economic decisions and actions may introduce or may mitigate potential risks."	Clarification. These elements are essential points especially "economic element" is some specific and limited use. Clear explana-tion should be necessary. This comment has been accepted on the resolution table for 35th NUSSC meet-ing and Japan submitted the comment again as Member States comment, but not reflected yet.	YES			
2.	1.6 a)/6	"By the regulatory body, as a part of …." This sentence is to be a location of b).	Adjustment	yes			
3.	1.9/1	The requirements in this publication apply to all types of facilities and activities⁶ that give rise to radiation risks., as follows: Delete from a) to h) Add flowing footnote; ⁶ The term 'facilities and activities is hereafter abbreviated for convenience to 'facilities and activities' as a general term encompassing any human activity that may cause people to be ex-posed to radiation risks arising from naturally occurring or artificial sources. The term 'facili-ties' includes: nuclear facilities; irradiation instal-lations; some mining and raw material processing facilities, such as uranium mines; radioactive waste management facilities; and any other places	Consistency with IAEA safety glossa-ry.				IAEA glossary

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

No.	Pa-ra/Line No.	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Reject-ed	Reason for mod-if./rejection
		where radioactive materials are produced, pro-cessed, used, handled, stored or disposed of — or where radiation generators are installed — on such a scale that consideration of protection and safety is required. The term 'activities' includes the production, use, import and export of radiation sources for industrial, research and medical pur-poses; the transport of radioactive material; the decommissioning of facilities; radioactive waste management activities such as the discharge of effluents; and some aspects of the remediation of sites affected by residues from past activities.					
4.	1.9/last	The requirements in this publication also apply in relation to activities functions of the regulatory body.	Clarification. Activity of regulatory body is essential area governed by this publication and it is included in function of the regulatory body.		edited		
5.	1.10/1	'Safety' means protecting the protection of people and the environment against radiation risks …	Editorial				IAEA glossary
6.	2.1 b)	b) Ensuring the safe management and control of all radioactive material that is produced, pro-cessed, used, handled, stored, transported and disposed of or transported.	Editorial		edited		
7.	2.1 f)	f) Ensuring that arrangements are made for pre-paredness and response for a nuclear or radiologi-cal emergency [GSR Part 7]	Editorial.		edited		
8.	Re-quire-ment 2	The Ssenior management of the organization shall demonstrate leadership for safety.	Editorial				kept

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

No.	Pa-ra/Line No.	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Reject-ed	Reason for mod-if./rejection
COMMENTS BY REVIEWER				RESOLUTION			
9.	**Re-quire-ment 2**	**Senior management[6] shall advocate an ~~system-ic~~ approach to safety that encompasses all interactions between ~~individual~~ human, tech-nology and the organization.**	Change it into a bold-face. Move footnote 6 in para. 2.1. "Systemic approach" is necessary to this sentence.				Moving to HTO in a number of docu-ments see footnote
10.	3.1 (a)/1	"institutional values" is not clear. Add the foot-note to the word "institutional values".	Clarification		Edited to organizational		
11.	3.1 (c)/1-2	It should be clarified the scope of "personal ac-countability" for all individuals and leaders com-pared with responsibility. For instance, is "personal accountability" required to managers and supervisors, not including work-ers?	Clarification				Individuals mean all – includes man-agers
12.	3.1 (h)	(h) ~~Senior management, shall~~ Ddevelop an organ-ization that is able to …	Editorial	ed-ited			
13.	4.26/1	Competences to be maintained in-house by the organization shall include competences for lead-ership at all levels and for developing and sustain-ing a safety culture, and expertise to understand and maintain the design and operation for safety ~~basis and the safety case~~ of the facility or activity.	"Design basis and the safety case" is not appropriate.	edit			
14.	4.28/3	Delete "and plant safety requirements"	"plant safety requirements" is one of the activity or process.		edited		
15.	4.42/1	Add the definition of "performance indicator" in footnote. The measurement tool of "Performance indica-tors" may have a various indicators and way to detect (1) establishment and revision of the man-	Clarification.				Will be included in guidance

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

No.	Pa-ra/Line No.	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Reject-ed	Reason for mod-if./rejection
		agement system, (2) implementation of the man-agement system, and (3) effectiveness of the management system.					
16.	4.44/6 ….	"preventive measures" → "preventive actions"	Adjust wording to GS-R-3 and ISO9001.	edit rd			
17.	4.46/8 (c)	Delete "(c) Leadership performance and safety culture;"	See Requirement 15.				Self assessment will also reveal these aspects for inclu-sion in improve-ment
18.	Require-quire-ment14	Fostering Continuous improvement of safety culture	Clarification.	ed-ited			
19.	Require-quire-ment14	Individuals in the organization, from senior management downwards, shall demonstrate leadership contribute to improve through by fostering safety culture. The management sys-tem shall be used to foster and support a strong safety culture.	All of individuals should not have leadership for fostering safety culture. Clarify the role of individuals.		Edited based on other com-ments		
20.	5.5/1	Senior management managers shall designate a team representing all organizational levels…	Editorial.	ed-ited			
21.	5.6/1	Senior management managers shall ensure that the independent assessment of leadership…	Editorial.	ed-ited			
22.	REFER-ER-ENCES	[7] INTERNATIONAL ATOMIC ENERGY AGENCY, Preparedness and Response for a Nuclear or Radiological Emergency, IAEA Safety Standards Series No. GSR Part 7 GS R 2, IAEA,	GSR Part 7 will be superseded GS-R-2.		All references will be edited in final draft		

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

No.	Pa-ra/Line No.	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Reject-ed	Reason for mod-if./rejection
		Vienna (under publication preparation 2002).					

NUSSC Comments on IAEA Draft Safety Requirement GSR Part 2,
"Leadership and Management for Safety" (DS456)

	COMMENTS BY REVIEWER			RESOLUTION			
Reviewer: Mikhail Lankin **Country/Organization:** Russian Federation **Date:** 25 May 2015							
Comment No.	**Page / Sec-tion / Line No.**	**Proposed new text**	**Reason**	**Accept-ed**	**Accepted, but modified as fol-lows**	**Rejected**	**Reason for modifi-cation/ rejection**
		COMMENTS ON CONTENT					
1	General		The main deficiency of the proposed standard is that it explicitly does not prescribe how safety integrates into the overall management system of an organization that is directly responsible for the installation and the activities. This mechanism follows from para 3.12 of standard SF-1. It is that in any processes or activities performed in the organization, the evaluation		Edited based on all comments Included integrated management system as 2.3		

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

100

		COMMENTS BY REVIEWER		RESOLUTION			
Reviewer: Mikhail Lankin							
Country/Organization: Russian Federation **Date:** 25 May 2015							
Comment No.	**Page / Section / Line No.**	**Proposed new text**	**Reason**	**Accept-ed**	**Accepted, but modified as follows**	**Rejected**	**Reason for modifi-cation/ rejection**
			of their impact on the safety. Processes and activities are carried out so as not to harm the safety. This mechanism should be explicitly stat-ed in the beginning of the standard as one of the requirements (preferably as Reguirement 2) and further this requirement should be references to, especially from the sec-tions on planning and safety culture.				
2	5/ sec-tion1.6		Paragraph 1.6 refers to principle 1 of the stand-ard SF-1, which estab-lishes the primary re-sponsibility for the safety of facilities and activities persons responsible for the installations and ac-tivities. The concept of "responsibility for facili-ties and activities" is too vague and blurred. Read-		Edited based on all comments		

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

COMMENTS BY REVIEWER				RESOLUTION			
Reviewer: Mikhail Lankin **Country/Organization:** Russian Federation **Date:** 25 May 2015							
Comment No.	**Page / Section / Line No.**	**Proposed new text**	**Reason**	**Accept- ed**	**Accepted, but modified as fol- lows**	**Rejected**	**Reason for modifi- cation/ rejection**
			ing on, SF-1, it is clear that we are talking in particular about operating organizations and the responsibility of the gov- ernment and other organ- izations specifically men- tioned. In this regard it would be advisable to avoid extended interpre- tations in the document, where the issue of re- sponsibility for the instal- lation and operation is not considered as much detail as in the standard SF-1, instead of the con- cept of "responsibility for the installation and opera- tion of" write "immediate (or direct) responsibility for installation and opera- tion". Or at least negoti- ate this understanding of the standard SF-1 in 1.6. Such writing is applied, for example, in the previ-				

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

COMMENTS BY REVIEWER				RESOLUTION			
Reviewer: Mikhail Lankin							
Country/Organization:		Russian Federation	**Date:** 25 May 2015				
Comment No.	**Page / Section / Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/ rejection**
			ous paragraph 1.6 of the standard GS-R-3: "directly responsible".				
3	6/ section 1.9	New para: i) design, manufacture of equipment and other works and services to the operating organization, in which is laid the potential impact on the safety of facilities and activities that create risk.	Section 1.9 defines the installation and the activities for which the requirements of this standard are valid. But what about the organizations engaged in the design, manufacture of equipment and other works and services to the operating organization, in which is laid the potential impact on the safety of facilities and activities that create risk? It appears that this paragraph should specify that the requirements of this standard must be carried out by such organizations as and to the extent set forth in the	edited			

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

Comment No.	Page / Section / Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/ rejection
COMMENTS BY REVIEWER				RESOLUTION			

Comment No.	Page / Section / Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/ rejection
			subcontract agreements to their customers, i.e. operators and other licensees, as specified in paragraph 1.6 of the previous standard GS-R-3.				
4	20/ last line	Requirement14: Continuous improvement **and maintenance** of safety culture	Safety culture should be first of all maintained and after that improved.	edited			
5	21/ p.5.1	Add new sentence: Organizational documents governing the activity of structural subdivisions of the organization should reflects distinctive features of safety culture maintenance for various professional groups of employees specific to their activities and its impact on the security of installation and operation.	Safety culture maintenance ways can be different for different groups of employees (e.g. safety culture is different for accountants , for operators, for repair subcontractors etc.)				Very specific and will be included in guidance

Reviewer: Mikhail Lankin
Country/Organization: Russian Federation   **Date:** 25 May 2015

COMMENTS BY REVIEWER

RESOLUTION

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial

Leadership and Management for Safety (DS456)

Comment No.	Para/Line No.	Identified problem/Proposed new text	Reason/Description	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
COMMENTS BY REVIEWER Country/Organization: Republic of Korea / Korea Institute of Nuclear Safety (KINS) Date: May 20, 2015				RESOLUTION			
1	Page 9 §3.1	… (g) Develop and maintain leadership competences at all levels in the organization, including competences for leadership in dealing with incidents and nuclear and radiological emergencies as well as unanticipated events. (h) Senior management, shall develop an organization that is able to appropriately prepare and respond to incidents and accidents,	Possible duplication with (g). And "developing a specific organization to do a specific job" seems not directly related to the demonstration of leadership by senior management.	edited			

Relevance: 1 – Essentials   2 – Clarification   3 – Wording/Editorial