

USA WASSC Comments on IAEA Draft Safety Guide DS477
The Management System for the Predisposal and Disposal of Radioactive Waste

COMMENTS BY REVIEWER				RESOLUTION			
Reviewer: Multiple (POC Bobby Eid; Bobby.abu-Eid@nrc.gov) Page...1. of....7 Country/Organization: USA/Nuclear Regulatory Commission Date: Oct. 27, 2017							
Comment No.	Para/Line No.	Comment/Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1	General	<p>The document goes through much details and repeat of guidance in IAEA published documents dealing with multiple aspects of “Predisposal and Disposal of Radioactive Waste,” rather than focusing on “Management Systems.” For example, Chapter 4 is quite detailed (45 pages) presenting guidance on safety already covered in the references listed in the document such as: # [8]; [10], [15], and [26]. We recommend reducing unnecessary text focusing on management systems and referring to relevant important safety aspects in the concerned documents without much repeat or detail.</p>	<p>Consolidation of the guidance to focus on “Management Systems” and minimization of redundancies and repetitions:</p> <p>Although the draft safety guide is on “Management Systems” topic, there is a disproportionate treatment of topics that may not fit directly as an essential guidance to a “Management system;” and therefore, should be either shortened or only referred to in the corresponding cited reference documents.</p>				<p>Comment is understood, but rejected. It is necessary to describe, at least to some degree, the waste management activities in order that the discussion of the management system can be tailored to the subject matter, i.e. radioactive waste management. Otherwise the management system guidance document would reduce to giving generic guidance on management systems that could be applied to any type of organization. We believe that the level of detail is appropriate.</p>

2	General & Page 24 Para 4.39	<p>The guidance presented tremendous details that may imply that such details apply to “<i>All Types of Predisposal and Disposal Waste Management Systems</i>,” regardless of volume of waste, or size of such facilities (e.g.; <u>one-size fits all</u>).</p> <p>The Section on graded approach may alleviate such concern to certain degree. Nevertheless, we recommend that the guidance emphasize early (e.g.; in the background section and the scope) that waste management programs would vary in size and scope depending on the volume and type of waste to be managed; as well as on the associated risk, or hazard.</p> <p>Para 4.39 statement indicated consideration of the “significance of various facilities and activities to safety, health, and environment.” We recommend that Para 4.39 be presented early in the background, or in an introduction to the “Graded Approach Section,” preceded by the following statement: <i>“This Safety Guide contains significant details on all the items that could be considered components in a comprehensive management program system; however, it is NOT intended to imply that a credible management system would indeed need to include ALL the details provided in this Safety Guide. [Paragraph 4.39 may follow this sentence].</i></p>	<p>The concern is that the tremendous detail in this guide and its structure may inadvertently imply that ALL management systems for ANY type of facility need to be as detailed. <u>The graded approach has a very good discussion that tempers the concern but there needs to have some statements up-front to ensure the guide is not misinterpreted to require a level of detail inconsistent with the specific risks/hazards.</u></p>	<p>Yes, Comment Accepted. New sentence added to para 1.1: “Given the wide range of waste management facilities and activities, it is important that the management system is developed and applied to a specific facility or activity using a graded approach [2].”</p>
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3	General	<p>DS477 covers two management systems that could be different in operation, control, licensing, planning, and implementation aspects. In addition, decisions in these two management systems could be different; particularly disposal of radioactive waste including its storage, transport and acceptance criteria for ultimate disposal. We do realize that the two systems are interdependent; nevertheless, planning and management could be different. Therefore, we suggest further discussion during consultancy meeting(s) of the merits of presenting the guidance document in three parts as described below:</p> <ul style="list-style-type: none"> • Management system applicable to both predisposal and disposal of radioactive waste; • Management system specific to predisposal of radioactive waste; and • Management system specific to disposal of radioactive waste. <p>We also recommend using the concept “graded approach” to each of the above.</p>	<p>Optimization of the structure, organization, and presentation of the document emphasizing the concept of graded approach. The proposed structure is also in harmony with the two separate safety requirements GSR Part 5 on “Predisposal Management of Radioactive Waste;” and SSR-5 on “Disposal of Radioactive Waste.” And two separate specific safety guides SSG-23 and SSG-41.</p>	<p>Comment understood, but rejected because it goes against the previous decision by the WASSC at its 29th meeting to combine the two safety guides, and the subsequent decision to structure the new combined Guide according to the structure of GSR Part 2.</p>			
4	Table of Contents	Please provide the titles of APPEDIX I, II, and III	Completeness	Yes			
5	Page 1, Para 1.2, Line 1	<p>Para 1.2 stated:</p> <p><u>This Safety Guide uses the term ‘management system’ instead of ‘quality assurance’.</u></p> <p>Modify sentence to read:</p> <p><u>This Safety Guide uses the term “management system” which incorporates under its umbrella</u></p>	<p>“The Management System” is a high level system which incorporates under its umbrella multiple sub-systems such as QA/QC. Typically QA/QC is a term used for data management to ensure accuracy and appropriate control.</p>	<p>Yes, Comment Accepted. Text revised to, “This Safety Guide uses the term ‘management system’ to refer to the broad set of interrelated or interacting elements that establishes policies and objectives and that enables those objectives to be achieved in a safe, efficient and effective manner. The management system incorporates,</p>			

		the “Quality Assurance, QA” and Quality Control, QC, systems.”		amongst other elements, Quality Assurance (QA) and Quality Control (QC) systems’.”			
6	Page 2, Para 1.9	Add the following item: e) The organization jurisdiction, strategic plans, specific duties, and responsibilities, as well as short-term/long-term objectives and goals.	The development of a management system for an organization should consider its jurisdiction, strategic plans, as well as short-term/long-term objectives and goalsto be achieved.	Yes			
7	Page 2, Para 1.10	Modify last sentence to read: Thus, establishing that processes are executed correctly to achieve intended goals and objectives.	Completeness	Yes			
8	Page 2, Para 1.1	Modify item a) to read: a) activities for waste management will be conducted in a coherent, coordinated , and controlled manner;	Completeness: Waste management involves significant coordination with multiple authorities and responsible parties.	Yes			
9	Page 3, Para 1.1	Modify Item (b) to read: b) waste products characteristics after treatments (e.g. conditioned waste or packaged waste) should will be of high and adequate quality consistent with the applicable waste acceptance criteria for its disposition or ultimate disposal. c) Delete item c) d) Modify item d) to read: “Waste manifest and its identification should be well documented to make subsequent decisions are feasible as whether they meet the waste acceptance criteria for the waste management process and the disposal facilities conditions.	b) The sentence “ <i>waste product will be of high and consistent quality</i> ” is incomplete. It is meant to refer to <u>waste characteristics</u> after treatment and to waste acceptance criteria for its disposition (storage, transport, release) or its ultimate disposal. c) Item c) becomes redundant. d) Waste manifest and waste identification, including inspection, typically ensure meeting the waste acceptance criteria.	Yes, Comment Accepted. See revised para. 1.11. More generally the text has been revised to use the term ‘conditioned waste’ instead of the term ‘waste products’.			
10	Page 3,	Modify Para 1.12 to read:	Use of proper terms applied to		Text		

	Para 1.12	Adherence to the guidance contained in this Safety Guide will also give confidence that the waste disposal facility and its radioactive inventory and other contents will be managed to comply with limits, controls and conditions important to safety functions and environmental protection .	establish confidence in performance of the disposal facility. Radioactive inventory in the disposal facility is the main parameter used in the safety case.		revised in accordance with this and other comments.		
11	Page 3, Para 1.14	<ul style="list-style-type: none"> Item b) last line, change “waste cooling,” to “waste containment and to achieve consensus in the risk informing decision-making process.” Item c) line Modify lines 3-7 to read: “...In some jurisdictions, ownership (and hence ultimate responsibility) for waste is transferred when the waste to a specialized waste handler changes hands. In other jurisdictions, waste always remains the responsibility of the original generator. In general, the transfer of responsibility is preferred as this ensures that the body managing the waste is actually responsible for it. Care should be taken to keep the responsibility clear and fulfilled at all times; meanwhile certain responsibility is maintained for the original waste generator.” 	Use of proper term. Other reasons for extended period of waste management could be related to achieve consensus and use risk-informing approach in the decision-making.	Item b) - comment is incorrect, no change needed. Item c) – text revised in accordance with other comments. No responsibility should be retained by the waste generator after transfer			
12	Page 6; Para 1.21	Modify Para 1.21 to read: “The objective of this Safety Guide is to provide guidance on developing and implementing systems for management for safety and environmental protection during all steps of radioactive waste management..”	Completeness: DS477 Management Systems objective also includes environmental protection.	Comment accepted - text revised in accordance with other comments.			
13	Page 6; Para 1.22	Modify item a) to read: pretreatment (e.g. collection, characterization ,	Completeness: Characterization and containment	Comment rejected because the text is consistent with the safety glossary.			

		segregation, chemical/ physical adjustment and containment decontamination);	of waste are important aspects of pretreatment.				
14	Page 7; Para 1.23	Modify item i) to read: Remediation, decontamination, and decommissioning	Completeness: Significant waste volumes can be generated during the remediation and decontamination processes.		“Decommissioning and environmental remediation”		
15	Pages 7 & 8; Para 1.25	<ul style="list-style-type: none"> Modify item b) to read: Waste characterization and classification. After item e) add: Public involvement in the decision-making. Item k) ... (e.g.; markup, archival of records, and restricted land use) 	Completeness	Comments partly accepted. It is not clear that this Guide does cover waste classification, or public involvement in decision-making. Edits to Item k) implemented.			
16	Page 9; Par 2.5	After Para 2.5, we suggest adding a new paragraph as stated below: - Senior management and responsible operators should ensure good practices of waste minimization during operation of facilities.	Completeness: Waste minimization is an important good practice which should be adopted during operation throughout waste management phases.	Agree but comment rejected because waste minimization is already mentioned in para 1.14 Item d).			
17	Page 13	We suggest adding the following two paragraphs after Para 3.9: 3.10 Training of staff and knowledge management; 3.11 Use newly developed technologies for handling of waste and waste minimization to minimize risk and potential exposures (e.g.; robotic and remote technologies).	Completeness to consider skills development and training as well as use of newly developed technologies.	Comments rejected. Training is already addressed in para 2.11, 4.42, 4.51, 4.64, 4.67, 4.68, 4.69, 6.18 and Appendices II and III. Knowledge management is already addressed in paras 2.5, 4.45, 4.70 and 4.85. This section is about leadership for safety not technologies.			
18	Page 22;	Add a new paragraph:		Comment accepted. New sentence added at			

	Para 4.26	4.27 Waste management systems may require coordination and interaction with different governmental authorities including Federal, State, and local governments or policy/budgetary authorities; this is due to interdependence in the ultimate decision-making process to achieve consent. Senior managers should strive to reach consent with all concerned parties. In some cases exemptions or amendment to regulations may be needed. The waste management systems should consider these aspects in order to establish alternate options or workable solution.	Completeness: Waste management systems could be impacted by different authorities within the Country or the State. Therefore, we believe there is a need to address interdependence of authorities (e.g.; environmental authorities, nuclear regulators, and Federal and State/Local authorities) in the decision-making regarding the waste management systems and implementation plans.	the end of para. 4.27, “There may be a need to consider and address interdependences between related organizations (e.g. national and local authorities, regulatory bodies) having a role in decision-making regarding waste management systems and implementation plans.”
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