

**Draft Safety Guide DS452 “Decommissioning of Nuclear Power Plants, Research Reactors and Other Nuclear Fuel Cycle Facilities”
(Version dated 3 December 2014)**

Status: STEP 8 – Submission to the Member States for comments

COMMENTS BY REVIEWER					RESOLUTION			
Reviewer: Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) (with comments of GRS) Country/Organization: Germany					Page 1 of 7 Date: 2015-03-25			
Relevance	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
2	1	General	The German reviewers would like to congratulate the drafters of the Safety Guide DS452 for their excellent work. The present draft version is already in a very good condition and seems to be useful and comprehensive with regard to contents. The new Safety Guide is fully supported by the German experts for waste safety and radiation protection. A few remaining corrections and proposals for improvements in the text are addressed below.	Comment only.				
3	2	1.2	2 nd sentence: “While decommissioning is the last stage in the lifetime of a facility, aspects of decommissioning, ...”	Missing word.				
2	3	Footnote No. 5 to 1.13	“For the purpose of more concise wording the term “facility” is used in this Safety Guide to denote all the facility types included in the scope, as explained in paragraph 1.14 1.13 .”	Wrong paragraph is cited in the footnote.				
3	4	1.14	1 st sentence: “Decommissioning considerations and actions addressed in this Safety Guide take place from siting and design of a facility until termination of the licence for decommissioning.”	Editorial.				
3	5	Footnote No. 6 to 1.22	“Draft nuclear security guidance on physical protection of nuclear facilities (NST023) and on security during the lifetime of a nuclear facility (NST051) is are in preparation.”	Grammar.				

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2	6	1.24	Last sentence: “Annex V provides a list of publications, which contain additional information on specific organizational, technical, financial and safety topics <u>issues</u> related to decommissioning.”	Amendment for completion. Annex V contains a subsection “Decommissioning costing” and, thus, covers financial aspects of decommissioning, too.				
2	7	2.8	Last sentence: “Specific provisions should be implemented by the licensee, depending of the final end state described in the final decommissioning plan.”	The end state is the final state of decommissioning. It is clear from the context that the end state refers to the final decommissioning report. Elsewhere in the document, only ‘end state’ is used. See also our related comments on Paras 7.28, 9.4 and 9.23.				
3	8	2.18	1 st sentence: “According to the complexity of decommissioning actions and the duration of <u>the</u> decommissioning project, the final decommissioning plan may be supported by ...”	Editorial.				
3	9	4.12	Last sentence: “Although new skills may be required for decommissioning, attention should <u>also</u> be given to preserving the knowledge of key personnel, who is familiar with the facility from its operational phase.”	Wording.				
3	10	4.15	1 st sentence: “In some cases, contractors may be used to perform all or some aspects of decommissioning (planning, conduct, completion <u>of</u> actions).”	Missing word.				

3	11	7.8	1 st sentence: “A baseline radiological site survey should be planned and performed for the proposed site of the planned facility and its surrounding area to establish background concentration levels of natural and man-made radionuclides <u>of natural and artificial origin</u> for use in assessing the future impact of the facility.”	The term ‘man-made radionuclides’ is out-of-date. Please modify wording to be in line with the terminology used in the Safety Requirements GSR Part 3 as well as in the UNSCEAR 2008 Report.				
2	12	7.28	Last sentence: “When using a phased approach, it is important to keep a global overview of the entire project in order to build confidence in the capability of the licensee to achieve the defined final end state of the decommissioning project.”	The end state is the final state of decommissioning. It is clear from the context that the end state refers to the final decommissioning report. See also our related comments on Paras 2.8, 9.4 and 9.23.				
2	13	7.38	“Criticality safety is required to be considered ... in the assessment of safety of planned actions, and in the design of waste packages and interim waste storage facilities.”	Storage is, by definition, an interim measure, but it can last for several decades. Therefore, the term ‘interim storage’ would be appropriate only to refer to short term temporary storage when contrasting this with longer term storage. Storage as defined in the IAEA Safety Glossary (2007 Edition) should not be				

				described as interim storage.				
3	14	7.54	Last sentence: “In case of a severe accident, the decommissioning plan of such facility should be consistent and coordinated with the overall strategy including off-site remediation.”	Editorial.				
2	15	8.2	2 nd bullet point: “Isolation and removal of SSCs which are not needed for decommissioning, such as criticality detection systems provided the facility has been verified to be free of fissile material ;”	For clarification. There are examples of decommissioning projects that started with spent fuel assemblies still located in the facility.				
2	16	8.15	1 st sentence: “The development and update of the list of SSCs important to safety is based on the design of the existing facility, the facility installation of the infrastructure to enable decommissioning, and the safety assessment concerning the decommissioning actions.”	Clarification.				
3	17	8.30	2 nd sentence: “Guidance for emergency preparedness and response is provided in the IAEA Safety Standards Series publications [34, 35] .”	Grammar.				
2	18	9.4	1 st sentence: “The final decommissioning report is required to be reviewed by the regulatory body to ensure that the final decommissioning end state, both for the physical and radiological status, has been reached in compliance with the final decommissioning plan and the related requirements of the licence for decommissioning.”	The end state is the final state of decommissioning. It is clear from the context that the end state refers to the final decommissioning report. See also our related comments on Paras 2.8, 7.28 and 9.23.				
3	19	9.15	Last sentence: “The implementation of controls has to comply	Grammar.				

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			with regulatory requirements and the monitoring and surveillance for compliance is required to <u>be</u> put be in place, as approved by the regulatory body.”					
3	20	9.18	Last sentence: “A decommissioning plan for the waste storage or spent fuel storage facility that remains on the site is required <u>to</u> be prepared.”	Missing word.				
2	21	9.23	1 st sentence: “When the criteria for the site release have been met according to the defined final decommissioning end state, the regulatory body should formally notify the licensee, other relevant competent authorities and interested parties of the decision to release the site from regulatory control.”	The end state is the final state of decommissioning. It is clear from the context that the end state refers to the final decommissioning report. See also our related comments on Paras 2.8, 7.28 and 9.4.				
3	22	App. I, I.4	1 st sentence: “Analyses of accident scenarios should be performed and protective measures for preventing accidents or minimizing the likelihood of their occurrence and for mitigating their potential consequences <u>should be</u> proposed.”	Missing words.				
3	23	App. I, I.11	2 nd sentence: “... detailed safety assessment for the others s phases may be performed later, but prior to the beginning of such phases.”	Editorial.				
3	24	App. I, I.19	2 nd bullet point: “Greater potential for the creation of airborne radionuclides, due to removal of containment or barriers during dismantling ; .”	Editorial (replace semicolon by punctuation mark).				
3	25	Ref. [12]	“INTERNATIONAL ATOMIC ENERGY AGENCY, Predisposal Management of Low and Intermediate Level Radioactive Waste, IAEA Safety Standards Series No. WS-G-2.5, IAEA, Vienna (2003) <u>(under revision, DS448)</u> .”	Add revision notice for completeness, as is done elsewhere in the list of references (Ref. [2], [4], [9],				

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				and [24]).				
3	26	Ref. [13]	“INTERNATIONAL ATOMIC ENERGY AGENCY, Predisposal Management of High Level Radioactive Waste, IAEA Safety Standards Series No. WS-G-2.6, IAEA, Vienna (2003) (under revision, DS447) .”	Add revision notice for completeness.				
3	27	Ref. [18]	“INTERNATIONAL ATOMIC ENERGY AGENCY, Remediation Process for Areas Affected by Past Activities and Accidents, IAEA Safety Standards Series No. WS-G-3.1, IAEA, Vienna (2007) (under revision, DS468) .”	Add revision notice for completeness.				
3	28	Ref. [22]	“INTERNATIONAL ATOMIC ENERGY AGENCY, Governmental, Legal and Regulatory Framework for Safety, IAEA Safety Standards Series No. GSR Part 1, IAEA, Vienna (2010) (under revision, DS462) .”	Add revision notice for completeness.				
3	29	Ref. [25]	“INTERNATIONAL ATOMIC ENERGY AGENCY, Safety Assessment for Facilities and Activities, IAEA Safety Standards Series No. GSR Part 4, IAEA, Vienna (2009) (under revision, DS462) .”	Add revision notice for completeness.				
3	30	Ref. [28]	“INTERNATIONAL ATOMIC ENERGY AGENCY, The Management System for Facilities and Activities, IAEA Safety Standards Series No. GS-R-3, IAEA, Vienna (2006) (under revision, DS456) .”	Add revision notice for completeness.				
3	31	Ref. [33]	“INTERNATIONAL ATOMIC ENERGY AGENCY, Regulatory Inspection of Nuclear Facilities and Enforcement by the Regulatory Body, IAEA Safety Standard Series Requirements No. GS-G-1.3, IAEA, Vienna (2002).”	Editorial.				
3	32	Annex V	The headline of the 2 nd subsection “TRANSITION FROM OPERATION TO DECOMMISSIONING” should be underlined.	Uniform formatting of the headlines in Annex V.				
2	33	Annex V	Please add the following IAEA publication to the 1 st subsection “CONTENT OF THE DECOMMISSIONING PLAN”:	Relevant publication proposed to be added to this subsection. It is also listed on				

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			<p>“INTERNATIONAL ATOMIC ENERGY AGENCY, Planning, management and organizational aspects of the decommissioning of nuclear facilities, IAEA TECDOC Series No. 1702, IAEA, Vienna (2013).”</p>	<p>the following website of the IAEA Department of Nuclear Energy, Waste Technology Section: http://www.iaea.org/OurWork/ST/NE/NEFW/Technical-Areas/WTS/decommissioning-publications.html</p>				
2	34	Annex V	<p>Please add the following IAEA publication to the 3rd subsection “DECOMMISSIONING STRATEGIES”:</p> <p>“INTERNATIONAL ATOMIC ENERGY AGENCY, Selection of decommissioning strategies: Issues and factors, IAEA TECDOC Series No. 1478, IAEA, Vienna (2005).”</p>	<p>Relevant publication proposed to be added to this subsection. It is also listed on the following website of the IAEA Department of Nuclear Energy, Waste Technology Section: http://www.iaea.org/OurWork/ST/NE/NEFW/Technical-Areas/WTS/decommissioning-publications.html</p>				
2	35	Annex V	<p>Please add the following IAEA publication to the penultimate subsection “DECOMMISSIONING COSTING”:</p> <p>“INTERNATIONAL ATOMIC ENERGY AGENCY, Financial aspects of decommissioning, IAEA TECDOC Series No. 1476, IAEA, Vienna (2005).”</p>	<p>Relevant publication proposed to be added to this subsection. It is also listed on the following website of the IAEA Department of Nuclear Energy, Waste Technology Section: http://www.iaea.org/OurWork/ST/NE/NEFW/Technical-Areas/WTS/decommissioning-publications.html</p>				