

**TITLE: Comments on IAEA DS520-DPP -SG External Human Induced Hazards in Site Evaluation for Nuclear Installation**

COMMENTS BY REVIEWER				RESOLUTION			
Reviewer:		Page.... of....					
Country/Organization: Belgium							
Date:							
Comment No.	Para/Line No.	Proposed new text / <b>Comment</b>	Reason / <b>Impact</b>	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
	Section 3 (Justification ...)	Besides the reasons for revising this SG (as given in § 3 of the DPP), it would be appropriate to indicate whether the scope would be extended to cover also Design Extension Conditions (DEC) related to the considered hazards. Indeed, Articles 4.18 to 4.21 of the present NS-G-3.1 (2002) discuss how to define Design Basis Events and their parameters. Given the fact that considering DEC is nowadays common practice (which was not the case in 2002), it would be advisable that the new SG covers also this aspect of DEC. If this will be the case, it would be good to mention this explicitly in the DPP.	If the proposal to include also DEC is accepted, it will have to be treated generically in § 4 of the revised SG, and specifically for each hazard in §§ 5 to 9.			X	This is out of scope of this SG which deals with the external human induced hazards characterization. Hazards severity to be used for DEC is a design decision.

COMMENTS BY REVIEWER				RESOLUTION			
Reviewer: M-L Järvinen,		Page.... of....					
Country/Organization: Finland/STUK		Date: 17th May 2019					
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
	General	Please update		X			

		<p>“Site Evaluation for Nuclear Installations”, which was later revised by amendment and published in 2016 as NS-R-3 (Rev.1). NS-R-3 (Rev.1) is currently under full revision, and the revised text (DS484) was approved by the CSS and the Publication Committee in November 2018.</p> <p>etc.</p> <p>SSR-1 has been published in April 2019.</p>					
--	--	--	--	--	--	--	--

COMMENTS BY REVIEWER				RESOLUTION			
Country/Organization: FRANCE		Date: May 2019 – NUSSC 47					
Pages							
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1.	3	The major changes mentioned above include the issues highlighted after the Fukushima Daiichi NPP accident, many of which were captured in NS-R-3 (Rev. 1) and DS484. For instance, the new safety guide will need to consider <del>provisions on the levels of hazards accounting for their uncertainties, provisions of managing events occurring in combination,</del> provisions for a site with multiple facilities, and <del>periodic reviews of site-specific hazards.</del>	The content of these parts of the sentence are whether purely obvious (it is always necessary to take into account uncertainties, if an event occurs in combination, it should be considered) or insufficient (a periodic safety review should be performed for all hazards). Thus, they are not useful or their meaning is not clear: they should be deleted	.	Sentence is modified.		To make it clear.
2.	4	<b>Another objective of the revised safety guide is to clarify the technical terms used</b>	This was announced as one the objectives of the revised safety guide during the TM (April 19 in Vienna)			x	This is not an objective. Terminology by default must be updated to be consistent with the current Safety Glossary.

3.	5	... g) performance, assessment <del>and acceptance criteria</del> of the nuclear installation	“acceptance criteria” should not be highlighted. It is not a clear concept, mentioned only once in DS 484 (not in a requirement) and should be part of assessment		x		The details about DS498 were deleted (out of scope)
4.	5		Comment to be considered when developing the DS: since the design process is covered by another DS (DS498), the recommendations related to the screening of potential external events should pay attention on the fact that this phase can be influenced the design concepts.			x	Link between DS520 and DS498 is clearly mentioned in the scope.
5.	7	10. <b>Specific considerations in the</b> evaluation of external human induced hazards for nuclear installations other than nuclear power plants	The current text seems to mean that the contents 1 to 9 will not be applicable for nuclear installations other than nuclear power plants			x	Guidance and recommendation given in Section 2 to 9 is applicable for nuclear installations other than nuclear power plants with grading approached presented in Section 10.

COMMENTS BY REVIEWER				RESOLUTION			
Reviewer: Japan NUSSC member Page.... of...1 Country/Organization: Japan / NRA Date: 17 May, 2019							
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1.	General	It is requested to include description on the hazards owing to the accidents of nuclear installations in the same site or in the adjacent sites, in accordance with requirement 9 of SSR-1.		x	The following text was included in Section 5 Scope: “The scope includes hazards due to interactions of multiple		

				facilities.”		
2.	Annex	<p>Replace the table as follows;</p> <ul style="list-style-type: none"> <li>• <u>Events associated with nearby land, river, sea or air transport (e.g. collisions and explosions)</u></li> <li>• <u>Fire, explosions, missile generation and releases of hazardous gases from industrial facilities near the site</u></li> <li>• <u>Electromagnetic interference</u></li> <li>• <u>Aircraft crashes</u></li> <li>• <u>Chemical hazards</u></li> </ul>	The list of events in the Annex should be described considering SSR-1 (Rev. 1) (Published in April, 2019) and the technical meeting in April, 2016.		x	List of external human induced event will kept same as NS-G-3.1. Annex presented in the DPP is deleted.

COMMENTS BY REVIEWER				RESOLUTION			
Reviewer: Page.1 of.3							
Country/Organization: Office for Nuclear Regulation (UK) Date:7 May 2019							
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1	Section 3 first paragraph, second sentence	“...directly support Requirement 24, which relates to... (add a brief summary of Requirement 24)”	This will improve the clarity and avoid the need to look up Requirement 24.	x			
2	Section 3 second paragraph, final line	“...and SSG-21, see section 6 for the titles of these documents.”	This will improve the clarity and make the document more user-friendly for those unfamiliar with SSG-9, etc.	x			
3	Section 3 bullet point 1	“Major changes to other documents in the hierarchy (NS-R-3 (rev. 1) and upcoming revision DS484) need to be reflected in NS-G-3.1.”	The current wording of this bullet point is confusing		Sentence is modified.		To make it clear.

4	Section 3 bullet point 2	“The gap between current practice in IAEA member states and certain aspects of the guidance set out in the existing publication needs to be addressed.”	The current wording of this bullet point is confusing	x			
5	Section 3 third paragraph, third bullet point	“Advances in technology and evolution of the techniques for the assessment of external human-induced hazards.”	The current wording is confusing.	x			
6	Section 3 fourth paragraph, fourth line	“provisions for managing events...”	Improved clarity		Sentence is deleted.		To eliminate confusion.
7	Section 3 final paragraph, third line	“will discuss practices and methodologies for evaluating...”	Improved clarity. Also, given that it is a technical meeting with an agenda, “aim to discuss” is too tentative; the agenda should ensure that this is discussed.		Sentence is modified.		To make it clear.
8	Section 4, lines 2 and 3	“...the applicable requirements for evaluating external human induced hazards for nuclear sites.”	The current wording is confusing.		Sentence is modified.		To make it clear.
9	Section 5 paragraph 3	“b) identification of potential external events arising from these sources”	The current wording is confusing	x			
10	Section 7, third bullet point	“As far as reasonably practicable, applicable combinations of external hazards (see Annex 2)”	Consider adding an Annex covering the most likely hazard combinations.			x	This is not a generic issue. It is site specific. This discussion will be made in the revision of the safety guide. Also, Annex is deleted.
8	Annex, initiating events column	Consider adding, “Control system failures in unmanned aircraft and vehicles (this is more likely to affect accident frequencies than consequences)”	The increasing use of unmanned aircraft and vehicles is likely to change accident frequencies.			x	The Control system failures in unmanned aircraft and vehicles is a level of details not appropriate for a Safety Guide.

11	Annex, initiating events column	Vehicle impacts should be separated from projectiles on a new line	Vehicle impacts constitute a different initiating event from aircraft crash and should be listed on a separate line			x	See above comment
General		The document would benefit from a full grammar check.		x			

COMMENTS BY REVIEWER				RESOLUTION			
Reviewer: US Nuclear Regulatory Commission Page 1 of 2 Country/Organization: USA/US Nuclear Regulatory Commission Date: May 17, 2019							
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1	General	DS520 is intended to be a revision of NS-G-3.1 on “External Human Induced <b>Events</b> ...” However, the title of DS520 “External Human Induced Hazards...” In this context, it is unclear of the depth of detail and scope of DS520. We note that hazards fall at lower hierarchy and considered a consequence of event. Therefore, it seems that the scope is expanded to go into analysis of hazards details. We suggest that the DPP explains explain the intent and rationale of changing the title from “Events” to “Hazards.” Alternatively, the title could cover both as suggested below: <b><i>“Human-Induced Events and Associated Hazards in Site Evaluation for Nuclear Installation”</i></b>	Title, Clarification and Scope.		The hazards associated with external human induced events in site evaluation for nuclear installation		To make it clear.
2.	Scope	The scope is unclear and ambiguous. We recommend that the scope provides a list of key areas/topics to be covered as typically used for DPPs. This would avoid confusion regarding the specific key topics to be incorporated as	Clarity of Scope			x	Scope of the revision is extended from NPP to nuclear installations. Scope of the external human induced events

		this topic is wide and overlaps between safety and security. An easy fix is to include the Annex under the scope of the DPP.					will be kept same as in the existing safety guide (NS-G-3.1). The process to evaluate hazards are mentioned. It is clearly mentioned that evaluation of the effect of willful human actions or malicious act on nuclear installation are out of scope of the revision.
3.	Annex, Page 6	The list presented in the Annex on “Human Induced Hazards” is mix- up between “Natural” and Human-Induced.: For example, flooding or drought is more of a natural phenomenon or event than a human-induced.	Clarity regarding overlap of natural events and human-induced hazard.			x	List of external human induced event will kept same as NS-G-3.1. Annex presented in the DPP is deleted.

COMMENTS BY REVIEWER				RESOLUTION			
Reviewer: <b>Framatome for WNA / CORDEL</b> Page.7.of. 2							
Country/Organization: <b>WNA</b> Date: 14/05/2019							
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1	Section 7 1 <sup>st</sup> bullet under ‘technical aspects’	As for technical aspects, the proposed safety guide will address or consider the following: <ul style="list-style-type: none"> <li>• <del>As far as reasonably practicable,</del> <b>Guidance to determine in a reasonably practicable manner</b> applicable combinations of external <b>(natural and / or human induced)</b> hazards;</li> <li>• Provisions of monitoring and ...</li> </ul>	This is to clarify that combination of hazards may not be limited to combination of human induced hazards but also combination of human induced hazards with natural hazards (because external natural hazards may trigger human induced hazards). <b><u>It is important that guidance should not only be provided for determining applicable combinations but also for justifying exclusion of certain combinations. Consistency should be insured between all safety standards regarding</u></b>	x			

COMMENTS BY REVIEWER				RESOLUTION			
Reviewer: <b>Framatome for WNA / CORDEL</b> Page.7.of. 2							
Country/Organization: WNA				Date: 14/05/2019			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			<b><u>combination of external hazards</u></b> (DS498, DS503 ...)				
2	Section 7 5th bullet under 'technical aspects'	As for technical aspects, the proposed safety guide will address or consider the following: • ...; • <u>Guidance for the application of a graded approach will be introduced taking inter alia account of the intended purpose of the site (number, types and characteristics of nuclear installations, planned lifetime duration of the site ...)</u> <del>for nuclear installations other than nuclear power plants will be introduced because the scope of the guide will be expanded.</del>	It is not because the scope is expanded that a graded approach should be applied; it applies, whatever the scope! Indeed, the graded approach does not only apply to nuclear installations other than NPPs but to all nuclear installations, including NPPs. Actually, this guide concerns site evaluation for nuclear installations, but it should be made clear that depending on the type / number of nuclear installations planned for the site, the planned duration for the lifetime of the plant ..., the hazards or the level of hazards to be considered may be different.		Sentences is modified as "Evaluation of external human induced hazards for nuclear installations other than nuclear power plants"		Guidance for the application of graded approach will be included in Section on Evaluation of external human induced hazards for nuclear installations other than nuclear power plants.