Comment No	Para/Line No	Proposed new text	Reason	Accepted	Accepted, but modified a.f.	Rejected	Reason for modification/rejection
GER 1	General		The terms preventive and mitigative are not used consistent with other basic IAEA documents like Safety Fundamental SF-1 (3.30 and 3.34) and Safety of nuclear power plant: Design NS-R-1 (definition of concept defence in depth 2.10). The term "preventive" is used for defence level 1 and 2 and constricted for level 3 (controlled).The term "mitigative" is used for Level 4 and 5. In DS367 preventive is only used for level 1 and mitagative for all the other levels.	PA	It has been Checked.		Consistancy with DS414 has been checked. Preventive safety function is used for Defence in depth level 1. Mitigatory safety function is used for controlling AOO, DBA to prevent further escalation of the event and for mitigating consequences for design extension conditions.
FIN 1	General	The consistency of the safety guide with the new requirements document NS-R-1 (DS414) should be reviewed after the finalization of the NS-R-1 requirements.	There are several discrepancies with the current draft DS414. As the finalization of the DS414 is in near future it is recommended that the safety classification safety guide is reviewed against finished DS414.	A			
FIN 2	General	It should be considered what design and quality assurance requirements are presented in the safety classification guide.	The role of design and quality management requirements in this guide is not clear. Also the purpose of all the appendixes is not clear.	A			
FRA 1		Delete section 4	Section 4 is not about the process of categorization but about the "requirements" related to each category. This section is quite uneven, as some topics (fire resistance, seismic resistance, I&C…) are mentioned but it does not cover the full spectrum of requirements related to the design, manufacturing, installation, commissioning and operation (including periodic tests and inspection as well as maintenance)… Furthermore, 4.1 deals with the assignment of requirements by functions, not by classes….			R	DPP contains sush a section. Section 4 gives overview of engineering rules and links for example to seismic, fire, I & C classification.
FRA 2		Delete Appendix 1	Such appendix is not useful as safety functions are not apparent, nor safety classes….	PA			May be useful?
FRA 3		Delete Annex II	See comment 1			R	It is an example
FRA 4	§2.18, 3.4, 3.8, 3.9, 3.16, 3.21, table 1	To be discussed at NUSSC: having preventive safety functions classified as important to safety	Most preventive safety functions are, up to now, not classified as important to safety. For example, the I&C only used for normal operation (e.g. regulation/automatic control – see §3.8 : to maintain paramters "within expected normal range") are not classified although these are the primary means to avoid soliciting the protection system… The exception is mostly with the main primary coolant boundary (vessel…) were preventive safety features are implemented to practically eliminate some accidents.	PA	Could be discussed during NUSSC	R	There are preventive Safety functions are classified.
UK 1	General		Arising from paras 1.4 and 4.3 (and elsewhere) – a key reason for classification of SSCs is to ensure an appropriate graded approach to control is adopted on the plant when in operation. This aspect is not addressed.			R	This is addressed in high level.

UK 2	General		Arising from para 2.18, but applies generally. The language of the text does not accurately reflect the terminology for Defence in Depth in Appendix 1. Specifically, what are called "mitigatory safety functions" in the text, relate to control and mitigation in the Appendix. Indeed Control is more prominent than Mitigation in the IAEA approach; the terminology adopted is unnecessarily confusing	A			
UK 3	General		The document does not give any advice on what might reasonably be expected by way of design (etc) standards for various classes of SSC, i.e. it only goes as far as saying what Class an SSC should be placed in and does not then say what this will mean in practice.	PA			ANNEX II gives an example. A TECDOC will be developed for more practical examples.
UK 4	General		Anthony Hart can supply further comments on typographical errors and style on request.	A			
ENISS WNA General Comment	***ENISS WNA General Comment***	ENISS appreciates the possibility to comment this draft DS367 again, because the classification of Structures, Systems and Components plays an important role in the safety of NPPs in Europe. This proposed document represents a real progress with regard to a previously examined version (in February, 2009). CORDEL appreciates the possibility to comment this draft DS367 again and recognizes a real progress of the current draft compared with a		A			

		previous version (in February, 2009). The methodology proposed is not far away from the ones described in IEC 61226 and EUR, but there is still important work ahead, before the draft can be published. The concept of safety classification described in the Draft at this stage does not represent the best practice in the member states, and two major issues are still to be addressed. 1. The concept for preventive safety functions as described in the draft (e.g. 3.7 and 3.8) does not describe actual safety functions, but functions which are necessary for normal operation ("...to keep the plant parameters within their normal range..." ; "... fundamental safety functions are fulfilled in normal operation...."). These functions are needed for DID Level 1 and should therefore not be considered as safety functions, especially as a failure of one of these functions never leads to "high" or "medium" radiological consequences (as described in Table 1). If a System for DID Level 1 fails, it should be dealt with on DID Level 2 in accordance with DS 414. The same applies to safety functions for Anticipated Operational Occurrences (which are DID Level 2), which are described as mitigatory				R	Summary of good practices To prevent RPV rupture

		safety functions (e.g. 3.11), but are still part of the operational state (see IAEA Glossary for the definition of plant states). The design of the existing plants as well as the plants of the new generation is such, that only functions needed to deal with DBAs (and DEC for new plants) are considered as safety functions. 2. The use of "mitigation" in this guide is misleading (mitigatory plant specific safety function) and doesn't comply with the IAEA Glossary. Mitigation only means the mitigation of accident consequences in terms of lowering radiation doses for workers, the public and the environment and is therefore only applicable in accidents (DiD-Level 4 and 5). The Draft is using this term for all functions above normal operation (DiD Level 1), which is not in compliance with the above IAEA definition. By combining these two points we suggest renaming "preventive and mitigative safety functions" to "preventive and mitigative functions" and to keep the term "safety functions" only for DBAs. (see examples in our comments to 3.8 - 3.12 and 3.21). The proposed system leads to a 4-level safety category classification that seems unduly complex since the				

		design codes do not use to foresee as many safety classes. Fortunately this is rather formal since shortcuts exists that could result in less categories. In these conditions we would suggest the system be simplified to a 3-level structure (also see our comments to 3.21, 3.25 and annex II). As this guide is an underlying guide to NS-R-1 requirement, it should be checked for compliance with the new NS-R-1 (DS 414) when DS 414 is published – therefore we strongly recommend approving DS 367 only after DS 414 has been published. The consistency between the IAEA glossary and this guide should also be carefully checked as in the current situation there could be some diverging interpretation as the lead document is not defined. This guide defines a new process for classification which will be difficult to fully apply to existing plants which will lead to only minimal safety benefits but significant costs. Therefore we strongly recommend that the methodology proposed in this guide is limited to new plants. In this guide there are a few articles that leave too much room for interpretation. For instance regulatory bodies have different limits on radiological consequences				

		(e.g. 3.17). This could lead to different safety categorization for the same design in different countries; that falls short of safety harmonization. As for the last revision of this draft ENISS would be glad to provide experts for further clarifying this guide before NUSSC approval.					
	Section						
UK 5	Para 1.3	Modify to read: "...relevant IAEA publications have been considered..."	Typo	A			
USA 1	1.3/1	Please explain basis for changes to this section since last revision	Section 1.3 refers to NS-R-1. IAEA guidelines, e.g., NS-R-1, classify SSCs into three categories: Safety, Safety-Related, and Not Important to Safety.	PA	New Safety standards were published recently and NS-R-1 was revised by DS414. Some referenced international publications were listed as well.		Requirement 23 of DS 414 states that "All items important to safety shall be identified and shall be classified on the basis of their function and their safety significance". Paragraph 4.1 of Ref. [1] states that "A systematic approach shall be taken to identify the items important to safety that are necessary to fulfill the fundamental safety functions, ..., for the first four levels of defence in depth." DS367 recommends three safety classes for all items (SSCs) important to safety.
UK 6	Para 1.4	Modify to read: "This will ensure that ~~the~~ appropriate engineering design rules..."	The set of design rules adopted is not unique.	A			
ENISS 1 WNA 1	1.4	[...] This will ensure that the appropriate engineering ~~design~~ rules are determined for each safety class, so that SSCs are designed, manufactured, constructed, installed, commissioned, quality assured, maintained, tested and inspected to standards appropriate to their safety significance.	Rules that have to be applied don't refer **only** to design but also to manufacture, maintenance, test.	A			
UK 7	Para 1.5	Rephrase to read: "The principles and method of classification provided in this Safety Guide aim at harmonizing national practices"	This seems to go beyond IAEA's remit.			R	IAEA with the help of MSs reviewed about 20 different approaches and developed this guide.
UK 8	Para 1.5	Modify to read: "... do not invalidate classifications of SSCs achieved using other methods provided these follow similar underlying principles"	There will surely be some approaches that do not meet what the international community would consider to be good practice.	A			
USA 2 (1)	1.5/1	~~To adopt the best practices in Member States,~~ the IAEA reviewed widely the existing safety classification methodologies applied in operating nuclear power plants and for new designs.	DS367 does not represent the practice in all the Member States (for example the US), since DS367 advises the use of more safety categories than are used in the US. The NRC's goal of reducing regulatory burden implies that	A	The use of three safety classes justified in the text of the draft DS367.		

			increasing regulatory burden, by adding a safety category, should be justified by some safety benefit to be gained.				
FRA 5	1.5/1	Delete "To adopt the best practices in Member States, the IAEA reviewed widely the existing safety classification methodologies applied in operating nuclear power plants and for new designs. This Safety Guide is based on this review. The principles and method of classification provided in this Safety Guide aim at harmonizing national practices. Furthermore,"	Superfluous	PA	Modified according to UK and USA 2 comments		
USA 3	1.5 Line 8	Insert: "or the national requirements of the individual Member States" at the end of the last sentence of this paragraph.	The paragraph states that the classification principles and methods provided in the Safety Guide do not invalidate SSC classification achieved using other methods. The Safety Guide should also indicate that specific requirements issued by the regulatory body of the Member State in which the nuclear power plant is located need to be met by the user of the Safety Guide.	A			
FRA 6	1.6/3	Add "safety by meeting associated" before and "targets" after "quality and reliability", and add	Safety is the objective, quality and reliability are characteristics	A			
ENISS 2 WNA 2	1.8	[...] The approach is intended to be suitable for new designs of nuclear power plants; however it ~~may also~~ shall not be fully applied to existing	Full implementation of this guide on existing plants would be very difficult and would bring huge costs with only minor safety benefits	PA	"should" for SG		Shall statement used for Safety Requirements

		plants or designs that have already been licensed. [...] ~~For upgrading of existing plants, the use of this Safety Guide will help to classify new SSCs, and reclassify existing SSCs interfacing with new SSCs if necessary.~~	To be deleted as when making modification to existing plants priority should be given to the consistency with the original standards used.			R	"will or could help"
UK 9	Para 1.9	Rephrase to read: "This Safety Guide is applicable for SSCs at nuclear power plants, but the recommendations it provides could be extended to cover any type of nuclear facility, if the appropriate amendments are made."	This is too weak. Something needs to be said about following similar principles.	PA			
USA 4	1.9 Line 9	Insert "all" prior to "SSCs" in the last sentence of this paragraph.	The Safety Guide should indicate that the scope of the safety classification methodology includes all SSCs that perform safety-related or nonsafety-related functions at the nuclear power plant.	A			
UK 10	Para 1.10	Modify to read: "Section 2 provides the basis and general approach <u>recommended for</u> meeting the safety requirements on safety classification."	The current words are too strict for a Safety Guide.	A			
UK 11	Para 1.10	Modify to read: "Section 3 describes the steps in <u>a</u> safety classification process. Section 4 provides recommendations on determining the design rules for plant specific safety functions and SSCs on the basis of their safety categories and safety classes respectively. Appendix I provides a chart indicating how safety functions	The approach set out in this SG is an example and is not the only way to do this.	A			

		relate to the various levels of defence in depth in this approach. Appendix II provides a table indicating the different steps typically performed in classification of SSCs."					
FRA 7	1.10/3	Delete "Section 4 provides recommendations on determining the design rules for plant specific safety functions and SSCs on the basis of their safety categories and safety classes respectively."	See comment 1			R	These recommendations give direction how to link rules to safety categories and classes and this task was included into DPP
FRA 8	1.10/	Delete "Appendix I provides a chart indicating how safety functions relate to the various levels of defence in depth."	See comment 2			R	Other comments
FRA 9	1.10/8	Delete "Annex II gives examples of design rules for SSCs."	See comment 1. (Eventually, Table II-III might be kept)	PA	Better to keep see other comments		
	Section 2						
ENISS 3 WNA 3	2.1 to 2.6		Check for compliance with DS 414 after DS 414 is published and take into account the comments below, when amending DS 414	A			
FRA 10	2.1 to 2.6		Reminder: ensure consistent wording with the published version of DS414	A			
JPN E1	2.2	Paragraph 4.1 of Ref. [1] states that "A systematic approach shall be followed to identify the items important to safety that are necessary to fulfil the fundamental safety functions, and to identify the inherent features that are contributing to or affecting the fundamental safety functions, for all the levels of	Editorial	A	New quotation from new draft DS414 included.		

		defence in depth. except level 5",					
USA 5	2.3/1	Please explain basis for changes to this section since last revision	Section 2.3 refers to "items important to safety". In NS-R-1, "all items important to safety" are divided into Safety and Safety-Related SSCs. These could have different quality and reliability requirements.	A	MSs' comments were the basis for changes. ANNEX II Table II-III gives example for different quality and reliability requirements for preventive and mitigatory safety classes 1-3.		
USA 6 (2)	2.4/8	… where appropriate by probabilistic methods, with account taken of factors such as: (1) the safety function(s) to be performed by the item; (2) the consequences of failure to perform the safety function; (3) the frequency at which the item will be called upon to perform a safety function; (4) the time following a postulated initiating event at which, or the period for which, it will be called upon to operate. (5) The environment in which the item is expected to operate"	Add bullet (5). This is related to (4) the time period in which the item is expected to operate. In a hostile environment, it must be determined whether the item can perform its safety function before it fails.			R	Quotation from new draft DS414 para 5.35 "The environment in which the item is expected to operate" should be the basis for the equipment qualification (seismic or harsh/mild environment) See response to comment USA 5
ENISS 4 WNA 4	2.4	Paragraph 5.35 of Ref. [1] states that "The method for ~~classifying~~ identifying the safety significance of items important to safety shall	Only safety functions and SCC are classified.	A			

		primarily be based on deterministic methods complemented where appropriate by probabilistic methods, with account taken of factors such as: (1) the safety function(s) to be performed by the SSC's ~~item~~, (2) the consequences of failure to perform the safety function; (3) the frequency at which the SSC ~~item~~ will be called upon to perform a safety function; (4) the time following a postulated initiating event at which, or the period for which, it will be called upon to operate."	In this Guide the classification of SSC is addressed and so the term SSC has to be used here. The final text of the DS414 should be modified accordingly.				
ENISS 5 WNA 5	2.5	Requirement 22 of Ref. [1] states that "Interference between ~~safety systems of lower classification~~ systems of different safety classes or between redundant elements of systems of the same class shall be prevented by means such as physical separation, electrical isolation, functional and independence of communication (data transfer), as appropriate."	For clarification	A	Requirement 22 of Ref. [1] was deleted new 5.37 from latest DS 414 was inserted		
JPN E2	2.6/Fig.1	Definition and review --> Review and definition	Definition is performed after reviewing.	A			
JPN E3	Fig.1/ 1st line on the 2nd Box	Identification of plant specific safety functions	To be consistent with the heading in Chapter 3; Identification of plant specific safety functions	A			
FRA 11	Figure 1	In the 2nd box, before safety function, add "(eventually reactor type specific, then plant specific)"	To be consistent with 2.11, 3.4 and 3.5	A			
FRA 12	Figure 1	In the 5th box, delete "three"	There may be more than 3 classes (see 2.13 and associated comment)	A			
FRA 13	Figure 1	In the 6th box, replace "design rules" by "engineering rules for the design,	To be consistent with 1.4 and 2.14	A			

		manufacturing, installation, commissioning and operation (including periodic tests and inspection as well as maintenance)"					
FRA 14	Figure 1	Add a feedback loop (after assignment of SSC to a safety class, back to identification of SSCs/groups of SSCs to perform safety function) related to the progress of the safety assessment.	To illustrate the iterative process. See 2.16	A			
USA 7 (3)	2.6/figure	Assignment of SSCs that perform safety functions to one of three safety classes	In the US, only three classes are used, and each class is simply defined: safety-related, "highly reliable", and control grade. Only the first class is truly a safety class. The three classes of US SSCs perform the functions of Categories A, B, and C.	A	See also FRA 12 comment resolution		
USA 8	2.6/figure	Please explain basis for changes to this section since last revision	Preventive safety functions: In the US, the plant is maintained in a normal operational state by automatic control systems (not important to safety), and by operators following normal operating, maintenance, and surveillance procedures. This is basically consistent with INSAG-10.	PA	Basis for changes: Member States comments		SSCs performing safety functions during normal operation should be classified in accordance with their safety significance. DS 414 requirements. (e.g. RPV Class 1) See para 3.8, 3.9
ENISS 6 WNA 6	2.6	(3) confinement of radioactive material, ~~provision of shielding against radiation and~~ control of planned radioactive release ~~of operational discharges,~~ as well as limitation of accidental radioactive releases."	Radiological or radiation protection is not considered or assimilated to a safety function. Found hereafter the right definition in the IAEA glossary (page 175) **"safety function** A specific purpose that must be accomplished for *safety*. Reference [40] lists 19 *safety*	PA	DS 414 Rev 27a		