Draft Safety Guide DS442 "Regulatory Control of Radioactive Discharges to the Environment" (Draft 3 dated October 2014)
Status: STEP 7 – First review of the draft safety standard by the SSCs

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

	COMMENTS BY REVIEWER Reviewer: **Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB)** (with comments of GRS) Page 1 of 16 Country/Organization: **Germany** Date: 2014-11-10				RESOLUTION			
Relevance	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
3	1	1.4	1st sentence: "The term 'discharge' is defined in [11] ~~[2]~~ and is used to refer to the on-going or anticipated authorized releases of gaseous, aerosol or liquid radioactive material to the environment …"	Wrong reference is cited. The term 'discharge' is defined in the IAEA Safety Glossary (2007 Edition), but not in GSR Part 3.	Yes			
2	2	1.7	"This Safety Guide … takes account of the advice given in a number of relevant Safety Guides [3, 4, 5, 6, 7, 8, 26] and with the experience from IAEA Member States." Please add the Safety Guide NS-G-2.7 to the list of references: "[26] INTERNATIONAL ATOMIC ENERGY AGENCY. Radiation Protection and Radioactive Waste Management in the Operation of Nuclear Power Plants. IAEA Safety Standards Series No. NS-G-2.7, IAEA, Vienna, 2002."	The DPP for DS442 lists the Safety Guide NS-G-2.7 as an interface document. In fact, Paras 4.45–4.55, 6.13–6.14, and Annex II of NS-G-2.7 provide specific guidance and recommendations on the regulatory control of discharges of radioactive materials from NPPs. Therefore, NS-G-2.7 should be added to the list of references.	Yes			
3	3	1.13	1st sentence: "This Safety Guide addresses the derivation of authorized operational limits for discharges, …"	Editorial.	Yes			

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

			2nd sentence: "An important input into the process of controlling discharges should be the prospective assessment of the level of protection of public and the environment against the harmful effects of ionizing radiation."	Slight modification of wording to be in line with GSR Part 3 and SF-1.				
2	4	1.14	"The facilities and activities considered cover a wide range of radioactive sources from, for example, those used in the general industry, those used in medicine and research to nuclear reactors and reprocessing plants. ~~It~~ This Safety Guide also covers the controllable discharges which may result from the ~~during uranium~~ mining and milling of ores for the extraction of uranium or thorium. Consideration is also given to the discharge of naturally occurring radioactive material (NORM) from facilities and activities."	In the present text of the 2nd sentence, the personal pronoun 'it' does not relate to a subject. With respect to discharges from mining, milling and mineral processing, ensure consistency with the information provided in Para 6.1 as well as with the Draft Safety Guide DS459 "Management of Radioactive Residues from Mining, Mineral Processing, and other NORM related Activities" (revision of WS-G-1.2). The DPP for DS442 lists the Safety Guide WS-G-1.2 as an interface document.	Yes			
3	5	2.16 (a)	"… determination of the representative person;"	Editorial (missing semicolon).	Yes			
3	6	after 2.19	Headline of subsection: "TRA~~S~~NSBOUNDARY IMPACTS"	Editorial.	Yes			
3	7	2.22	Numeration of bullets (a) to (e) should be drafted line by line: "Para. 3.132 of the BSS [2] requires registrants and licensees in applying~~,~~ for an~~d~~ authorization for discharges, as appropri-	Editorial correction to be in line with the format of comparable paragraphs (e.g. 2.17 and 2.18), and with the aim to improve the	Yes			

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

			ate~~”~~ – i.e. consistent with a graded approach –~~”~~: (a) … (b) … (c) … (d) … (e) …”	readability of the entire statement.				
3	8	2.25	1st sentence: “The specific requirements relating to a graded approach are given in GSR Part 1, GSR Part 3 and GSR Part 4 ~~[14], [2] and [15]~~ [14, 2, 15].”	Uniform citation of references throughout the document.	Yes			
3	9	Section 3	Proposed new sequence of subsections with associated headlines: JUSTIFICATION (Paras 3.2 – 3.3) OPTIMIZATION (Paras 3.5 – 3.7) DOSE LIMITATION (Para 3.4)	For the sake of consistency, please use the same sequence of headlines as in the related requirements in GSR Part 3: • Requirement 10: Justification of practices; • Requirement 11: Optimization of protection and safety; • Requirement 12: Dose limits.	Yes	The order in ICRP and BSS is as in the comment. However, the logic in setting discharge limits is: you have a dose limit, you set a constraint, you optimize, you reach to the discharge limit. I will revise the text.		
3	10	3.4	2nd sentence: “These dose limits represent the maximum dose that should be applied to control the radiological impact to members of the public ~~discharges~~ when setting discharge limits.”	Modify wording to be more clear.	Yes			
3	11	4.1	1st sentence: “… releases of naturally occurring radioactive materials at its original levels …”	Grammar.	Yes			
2	12	4.3	“Para I.2 of Schedule I in the BSS [2] indicates that an effective dose of the order of 10 µSv in a year received under	Include full citation in order to specify the place in the BSS where the dose	Yes	However, some reviewers prefer les citations (less quotations) and just indicating the refer-		

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

			all reasonably foreseeable circumstances would imply no need of an authorization. This dose criterion should be applied to the representative person. To take into account low probability scenarios, a different criterion could be used, namely that the effective dose expected to be incurred by any individual for such low probability scenarios does not exceed 1 mSv in a year."	criterion for exemption of a practice from regulatory control is defined. For completeness, please add the relevant dose criterion for low probability scenarios specified in the same paragraph of GSR Part 3.	This addition will be considered	ences. We will discuss this in further revisions.		
3	13	5.1	"… at different stages of the lifetime of a facility or the development of an activity."	Wording adapted to be in line with the terminology used elsewhere in this document (see Paras 3.6, 5.2, 5.4, 5.41 and 5.70).	Yes			
3	14	5.4	2nd sentence: "Figure 2 describes schematically the stages in the lifetime …"	Grammar.	Yes			
2	15	5.6	2nd sentence: "The procedure to develop a discharge authorization, including the information that should be required by the regulatory body to the applicant, is described in ~~the following Section~~ Paras 5.14–5.18."	Please refer to the relevant paragraphs, in order to be more specific and to avoid misunderstanding. Current text suggests that Section 6 is referred to.	Yes			
3	16	5.16 (d)	"… (this may involve … a more detailed site-specific study)."	Editorial (missing hyphen).	Yes			
3	17	5.16	Last sentence: "Figure 3 illustrates the process to authorize discharge limits …"	Grammar.	Yes			
3	18	5.18	Last sentence: "… in order to reach ~~to~~ an optimum solution from the overall radiation protection point of view."	Editorial.	Yes			
3	19	5.23 (c)	"… in the case of a nuclear reactor, other nuclear reactors to be possibly~~e~~ built on the same site."	Grammar.	Yes			

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

3	20	5.25	"The selection of the value for the dose constraint should consider: (a) the practicability of reducing or preventing the exposure~~,~~; (b) the expected benefits of the practice to individuals and society~~,~~; (c) other societal considerations relating to the practice; and (d) national or regional factors, together with a consideration of international guidance and good practice elsewhere."	Include consecutive numbering in order to improve structuring of the factors that should be considered when setting the value for the dose constraint (compare, e.g., with Para 5.12).	Yes	The bullets will be revised due to this and other comments received.		
1	21	5.29	"A generic upper value for a dose constraint should be defined by the government or the regulatory body for different practices. … Considering the need for flexibility in the process of optimization, the use of a range is advisable. Based on the experience in States, this range for the dose constraint for nuclear fuel cycle facilities (including reactors) could be of annual doses of between 100 and ~~800~~ 300 µSv. Other practices could have other ranges of generic dose constraints."	Note that the generic upper value in DS442 (800 µSv) is considerably higher than the one recommended in the existing Safety Guide WS-G-2.3 (300 µSv). This calls for justification. If any new data or sources of information on the applied values of dose constraints are available, they should be included or referred to in DS442. Table II of the Appendix in WS-G-2.3 summarizes the dose constraints for nuclear fuel cycle facilities (including reactors) used in various Member States. There is a relatively narrow range of annual doses of between 100 and 300 µSv. In line with these values, Para A.9 of the Appendix concludes that "*… on the basis of a review of the dose con-*	Yes	This new value was suggested during drafting by international experts. It is a proposal to be discussed in next WASSC/RASSC/NUSSC meeting.		

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

				straints generally in use today in various countries (Table II), 300 µSv committed in a year is suggested as a default value for a source related dose constraint. This default value takes account of the possibility that other facilities discharging radionuclides may be built nearby in the future, e.g. the development of a reactor park, and that other local sources may contribute to the dose committed to a member of the public." Furthermore, the ICRP Publication 77 states that "*to allow for exposures to multiple sources, the maximum value of the constraint used in optimization of protection for a single source should be less than 1 mSv in a year. A value of no more than about 0.3 mSv in a year would be appropriate.*" The Annex in IAEA-TECDOC-1638 (Ref. [9]) which summarizes the latest experiences in various States, does not contain any indication that would justify an increase of the generic upper value of dose				

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

				constraint for nuclear fuel cycle facilities to 800 µSv/a.				
2	22	5.35	"In the case of discharges to the atmosphere, consideration should be given to the meteorological data at or close to the proposed site and possible deposition of radioactive material on land and subsequent transfer to crops and animals as well as on standing water bodies and subsequent uses of water."	The proposed insertion considers the deposition of radioactive material at the surface of stagnant inland waters due to discharges of radioactive material to the atmosphere.	Yes			
3	23	5.37	"Pre-operational studies should also be carried out to determine the existing levels of radiation in the area surrounding the facility prior to operation …"	Missing word.	Yes			
2	24	5.39	"The characterization of the radiation exposure pathways should take account whether discharges are to the air or water, and in the case of liquid discharges, whether the discharge will be to a marine, estuarine or freshwater environment ~~sea or fresh water (lake or river)~~. For hospitals and research laboratories, there may also be discharges of radionuclides to the sewerage system. The relative importance of different exposure pathways …"	Ensuring consistency with Para 5.19 of the Draft Safety Guide DS427 (Ref. [6]).	Yes			
3	25	5.48	Last sentence: "Nevertheless, the regulatory body should determine the type of installation that, despite the doses to the public due to releases during normal operation are very low, would require that an optimization process is conducted (for instance, for NPPs or ~~similar~~ other complex installations)."	Wording adapted to be in line with the terminology used elsewhere in this document (see Paras 5.4, 5.14, 5.60, 5.73 and 5.75).	Yes			
2	26	5.50	2nd sentence: "Concepts such as best available technol-	It is proposed to split Ref. [25] into two separate ref-	Yes			

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

			ogy[13] (or best available techniques) are used in some States [24] and under certain international frameworks [25, 27] and in other industries for controlling pollutants generally; an adequate use of best available techniques corresponds to optimization and demonstration of best available techniques would demonstrate optimization." Please assign a new footnote No. 13 to the term 'best available technology' with the following text of the footnote: "[13] The term 'best available technology' means the latest stage of development (state of the art) of processes, facilities or methods of operation which indicate the practical suitability of a particular measure for limiting discharges, emissions and waste."	erences. More details are provided in our related comment on Ref. [25]. A short explanation of the term 'best available technology' should be provided in a footnote because the term is not defined in the IAEA Safety Glossary (2007 Edition). The proposed text is taken from Appendix 1 of the 1992 OSPAR Convention (Ref. [25]). A similar definition is provided in the Directive 2008/1/EC (Ref. [27]).				
3	27	5.51	"The estimation of collective doses resulting from different options or alternatives … and their direct comparison is ~~can be~~ another parameter which could be ~~to~~ included in the optimization process."	Wording.	Yes			
3	28	5.52	2nd sentence: "When estimating collective doses to the public, care should be taken to avoid inappropriate aggregation of, for example, very low individual doses over extended time periods and wide geographical regions, i.e. limiting conditions should be set."	Wording.	Yes			
2	29	5.54	"The establishment of an authorization of discharges should take into account the results of a previous assessment of the radiological environmental impacts, com-	1st sentence: Insertion to be in line with Para 3.9 (e) of GSR Part 3.	Yes	However, NG-T-3.11 is not a Safety Standard and we can include this reference only as a		

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

			mensurate with the radiation risks associated with the facility or activity [2]. ~~[6] presents g~~Guidance on radiological impact assessment which should be used as the initial basis in the process of setting discharge limits is presented in [6] and [28]. …" Add Ref. [28] to the list of references: "[28] INTERNATIONAL ATOMIC ENERGY AGENCY. Managing Environmental Impact Assessment for Construction and Operation in New Nuclear Power Programmes. IAEA Nuclear Energy Series No. NG-T-3.11, IAEA, Vienna, 2014."	2nd sentence: Environmental impact assessment is described in more detail in the Nuclear Energy Series publication NG-T-3.11 which has been published recently. For the sake of completion, please include a reference to this publication.		source of useful information, not as a recommendation.		
3	30	5.60	1st sentence: "A generic approach also may be used to estimate doses to the representative person at the early stages in the lifetime of a complex installation~~s~~ (see Fig 2), …"	Wording adapted to be in line with the terminology used elsewhere in this document (see Paras 3.6, 5.2, 5.4, 5.41 and 5.70).	Yes			
2	31	5.66	Last sentence: "The possible accumulation of long-lived radionuclides (with physical half-lives longer than ~~say~~ one year) in environmental media (soil, sediments) should be taken into account."	Clarification.	Yes			
3	32	5.68	"Different age groups should be considered when determining the representative person. It is generally sufficient to consider exposures to three age groups (1 and 10 year old children and adults) while ~~with~~ the embryo or fetus and breast fed infants also being considered in some limited circumstances [16]."	Wording.	Yes			
3	33	5.75	2nd sentence: "The period of validity for complex in-	Grammar.	Yes			

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

			stallations like nuclear power plants, reprocessing facilities and radioisotope~~s~~ production facilities should be …"					
2	34	5.80	"For large, complex nuclear installations that may release a variety of aerosol, gaseous or liquid radioactive material to the environment, ~~D~~discharge limits for groups of radionuclides rather than individual radionuclides may be appropriate when the radionuclides share relevant characteristics so that they can be measured with gross counting techniques. For example, airborne discharges from nuclear power plants are often grouped as follows: noble gases, halogens or iodine isotopes, and particulates. …"	1st sentence: Grouping of radionuclides may not be appropriate for simple (non-nuclear) facilities discharging only a few radionuclides, such as hospitals and small research laboratories. The proposed insertion makes this clear. 2nd sentence: Wording.	Yes			
1	35	after 5.81	Please add a new paragraph with the following text: "In addition to the discharge limits for certain groups of radionuclides, discharge limits may be imposed on specific radionuclides that are deemed to be of special significance (e.g. tritium and C-14 for nuclear power plants). In some cases, the regulatory body may also impose limits on specific radionuclides that provide early indications of changes in the operational status of the facility (e.g. uranium discharges for nuclear cycle facilities), or that may provide an exceptionally high contribution to the total off-site dose."	Essential amendment. In many States operating nuclear power plants, discharge limits are also imposed on specific radionuclides such as H-3 (tritium) and C-14. Corresponding techniques for sampling and measuring are applied by the operators. Examples from experiences in States are presented in the Annex of IAEA-TECDOC-1638 (Ref. [9]).	Yes			
3	36	Figure 4	Legend: "Figure 4: ~~r~~Relation of source related dose constraints and authorized discharge limits."	Editorial.	Yes			
3	37	5.91	"In order to demonstrate that discharges are in compliance with the limits and in	1st sentence: Further recommendations	Yes			

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

			order to check the assumptions used to evaluate representative person doses, source and environmental monitoring programmes should be established [8]. For complex installations like nuclear power plants or reprocessing facilities, environmental monitoring should also provide an additional means, besides effluent monitoring, of checking for unexpected releases."	and guidance on source monitoring and environmental monitoring in the operational stage are provided in Paras 5.15–5.30 of the Safety Guide RS-G-1.8 (Ref. [8]). Please include a reference to this publication. 2nd sentence: Means of checking for unexpected releases may not be necessary for simple facilities using limited amounts of short lived radionuclides, like hospitals and small research laboratories.				
2	38	5.92	"Simple installations, like hospitals or small research laboratories using short lived radionuclides, may not need a permanent environmental monitoring programme [8]. However, ~~but~~ a single monitoring campaign close to the installation prior to and at the beginning of operations should be considered by the regulator as a requisite to verify compliance."	This paragraph provides a link to the Safety Guide RS-G-1.8 (Ref. [8]) which states in Para 2.9 "*Some practices and sources (e.g. hospitals or research institutes using short lived radionuclides) may not require a monitoring programme for the environment …*" In the case that environmental monitoring is conducted to verify compliance with the discharge authorization, a monitoring campaign before the beginning of operations	Yes			

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

				should also be considered, in order to establish a base-line.				
3	39	after 5.93	Headline of subsection: "Monitoring by the operator"	Editorial.	Yes			
3	40	5.95	2nd sentence: "… the measurement of radionuclide concentrations in environmental media (including foodstuffs and drinking water) and doses or ~~/~~dose rates due to sources in the environment."	Editorial.	Yes			
3	41	5.96	"… and to provide a warning of unusual or unforeseen conditions ~~and~~, where ap-propriate."	Editorial.	Yes			
3	42	5.97	"Some subsidiary objectives, which should usually be fulfilled by a monitor-ing programme [8], are: (a) to provide information for the public; (b) to maintain a continuing record of the impacts of an installation or a practice on environmen-tal radionuclide levels; and (c) to check the predictions of environmental models so as to modify them as appropriate in order to reduce uncertainties in the dose assessment."	Include consecutive num-bering in order to improve structuring of the factors that should be considered when setting the value for the dose constraint (com-pare, e.g., with Para 5.12).	Yes			
3	43	5.113	"… nuclear energy, scientific bodies and environmental groups (see Refs. [11] and [2]))."	Editorial (missing bracket).	Yes			
3	44	5.116	"As noted in paragraph ~~2.9~~ 2.20, there is a requirement to exchange information with other States when a discharge could cause public exposure to these ~~s~~States; …"	Wrong paragraph is cited.	Yes			
1	45	Section 6	Note: Compared to the other sections of the Safety Guide, this section is rather weak. For upgrading and further development of	Due to the economic im-portance of many NORM industries, Section 6 de-serves more attention and	Yes	Upgrading will be con-sidered		

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

			the text, we recommend to use the following publications as a basis, together with a couple of other IAEA Safety Reports and TECDOCs related to NORM: • IAEA: Monitoring and Surveillance of Residues from the Mining and Milling of Uranium and Thorium, Safety Report Series No. 27 (Vienna, 2002) • European Commission: Effluent and dose control from European Union NORM industries: Assessment of current situation and proposal for a harmonised Community approach (Luxembourg, 2003)	should be more elaborated in this Safety Guide. The discharges into air and water from NORM industries vary considerably with respect to the radionuclides discharged, the effective height of the stacks for aerial discharges, and the characteristics of the receiving aquatic environment for liquid discharges. Radiation exposure of members of the public resulting from these discharges involves many exposure pathways, and the level of exposure per unit discharge rate depends on quite a number of site-specific conditions. Consequently, no simple and general relationship exists between the discharge rate and the effective dose to members of the public. On the other hand, detailed site-specific analysis is not warranted when, on the basis of a generalised and conservative approach, it can be concluded that the discharges are of no radiological significance.				
3	46	6.1	"Generators of naturally occurring radioactive material (NORM) discharges in-	Slight modification of text to address the whole zircon	Yes			

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

			clude onshore and offshore facilities for oil and gas extraction, surface and underground mineral mines, mills and processing facilities, ~~and~~ the production of rare earth metals, fertilizers, thorium~~,~~ and titanium, and the processing and use of ~~ceramics using~~ zircon sands."	and zirconia industries (see IAEA Safety Report Series No. 46 "Radiation protection and NORM residue management in the zircon and zirconia industries").				
2	47	6.2 (f)	"While ~~L~~liquid discharges from offshore oil and gas installations are unlikely to lead to significant ~~human~~ exposure, ~~but there may be an impact on the environment. However,~~ the cleaning on land of pipes containing radioactive residues with elevated levels of radium may result in liquid wastes which should be controlled;"	Clarification.	Yes			
2	48	7.1	2nd sentence: "In general, two main options should be considered: (a) Permanent ~~S~~shutdown followed by immediate dismantling of the facility; or (b) Permanent ~~S~~shutdown of the facility with deferred dismantling to a later date."	Clarification. The term 'permanent shutdown', as used in GSR Part 6 and DS452, means that the facility has ceased operation and operation will not be recommenced.	Yes			
2	49	7.3	1st sentence: "The anticipated discharge levels following permanent shutdown of a facility are usually much lower than during the operational period since any short-lived radionuclides will have decayed."	Clarification. The term 'permanent shutdown', as used in GSR Part 6 and DS452, means that the facility has ceased operation and operation will not be recommenced.	Yes			
2	50	7.5	"Dismantling of nuclear facilities usually takes place progressively over several years and is usually divided into different phases. Effluent discharges typically vary through these phases. Protection and safe-	Amendment for clarification. We assume 'step' means the individual decommissioning/dismantling actions, not the phases	Yes			

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

			ty should be optimized at each step, with account being taken of the experience gained in the previous steps. …"	of a decommissioning project as such (compare with Paras 7.32 and 7.41 of the Draft Safety Guide DS452 "Decommissioning of Nuclear Installations").				
2	51	8.3	Please add new sentence: "If authorization of the discharge is required, similarly to a new practice, discharges should be adequately characterized, exposure pathways identified and a radiological environmental impact assessment carried out. In such cases, the generic approach described in Ref. [6] should be applied to estimate the radiological effects on both the public and the environment."	For completeness, a reference to the Draft Safety Guide DS427 (Ref. [6]) on radiological environmental impact assessment should be included here.	Yes			
3	52	Ref. [5]	"INTERNATIONAL ATOMIC ENERGY AGENCY. Radiation Protection of the Public and Protection of the Environment, IAEA Safety Standards Series. IAEA, Vienna. [DS432]"	Citation of the correct title of DS432 (see current draft version dated 30 September 2014).	Yes			
3	53	Ref. [6]	"INTERNATIONAL ATOMIC ENERGY AGENCY. A General Framework for Prospective Radiological Environmental Impact Assessment and Protection of the Public, IAEA Safety Standards Series. IAEA, Vienna.[DS427]"	Citation of the correct title of DS427 (see current draft version 5 dated September 2014).	Yes			
3	54	Ref. [14]	"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 the sake of completeness. GSR Part 1 (Rev. 1) will be finalized much earlier than DS442.	Yes			
3	55	Ref. [15]	"INTERNATIONAL ATOMIC ENERGY AGENCY. Safety Assessment for Facilities and Activities, IAEA Safety	Add revision notice for the sake of completeness. GSR Part 4 (Rev. 1) will be	Yes			

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

			Standards Series No. GSR Part 4. IAEA, Vienna, 2009 (under revision, DS462).”	finalized much earlier than DS442.				
3	56	Ref. [21]	“INTERNATIONAL ATOMIC ENERGY AGENCY. Application of the Concepts of Exclusion, Exemption and Clearance, IAEA Safety Standards Series No. RS-G-1.7. IAEA, Vienna, 2004.”	For completion.	Yes			
2	57	Ref. [25]	Please split Ref. [25] (cited in Para 5.50) into two separate references: “[25] OSPAR COMMISSION. 1992 OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic, 22 September 1992.” “[27] EUROPEAN UNION. Directive 2008/1/EC of the European Parliament and of the Council of 15 January 2008 concerning integrated pollution prevention and control (Codified version).”	For completion. The OSPAR Convention is available on the following website: http://www.ospar.org/html_documents/ospar/html/ospar_convention_e_updated_text_2007.pdf Please note that Ref. [27] was originally adopted as Council Directive 96/61/EC and, after several amendments, codified as Directive 2008/1/EC. The document is available on the following website of the European Union: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:024:0008:0029:EN:PDF	Yes			

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