DS442 Regulatory Control of Radioactive Discharges to the Environment

COMMENTS BY REVIEWER Reviewer Country/Organization: Republic of Korea / Korea Institute of Nuclear Safety Date: October 17, 2014				RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1	§1.7 & REFERENCES	*(IAEA Safety Guide No. NS-G-2.7(2002), which is a sister Safety Guide of Ref. [7], i.e. NS-G-1.13 for design and deals with operational discharge issues at the NPPs, should be referred to in DS422, more specifically in Para. 1.7.)*	In Section 4 and Paras. 6.13-6.14, of NS-G-2.7(2002) titled "Radiation Protection and Radioactive Waste Management in the Operation of Nuclear Power Plants", we can find specific guidance and advice on the regulatory control of discharges at NPPs.	Yes			
2	§4.1	[…] ~~natural~~ naturally occurring radioactive materials […]	To keep consistency with the IAEA Safety Glossary (2007)	Yes			
3	§5.29	*(The basis or source of information on the quantitative values of the annual dose constraint for nuclear fuel cycle facilities described in Para. 5.29 should be specified.)* […] 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 µSv. […]	The range of annual doses between 100 and 800 µSv as shown in Para. 5.29 is not compatible with TABLE II of WS-G-2.3 (2000) which shows the range of dose constraints between 80 and 300 µSv. It is recommended to check the source of information again and specify it in the text as a reference.	Yes	This is a proposal and will be discussed during WASSC/RASSC/ NUSSC meetings		
4	§5.91	Simple installations like hospitals or small research laboratories may not need a permanent environmental monitoring programme but a single monitoring campaign close to the installation prior to and at the	For simple installations such as small hospitals or laboratories using short lived radionuclides, environmental monitoring is not usually required (See Para. 2.9 of RS-G-1.8).	Yes			

		beginning of operations ~~should~~ may be considered by the regulator as a requisite to verify compliance.	If the environmental monitoring is to be conducted to verify compliance, monitoring before commissioning should be also considered in order to get the baseline data.				
5	§A.14 to §A.16	A-14. There are a number of ways in which authorized discharge limits can be set based on limiting either dose from ~~or~~, quantity or concentration of radioactive material discharged from the facility. In most cases, the choice is a matter of preference on the part of the regulatory body, as well as the manner in which the regulatory body requires licensees to demonstrate compliance. A-15. Some regulatory bodies prefer dose because it is viewed as a more fundamental quantitative limit ~~quantity~~ and one that underlies the system of limitation of discharges. Setting limits in terms of quantities or concentrations discharged, on the other hand, is viewed by other regulatory bodies to reflect more closely the quantity or concentration that is to be controlled and measured, and is therefore more closely connected to the actions that the registrant or licensee must take to control discharges. A-16. Expressing limits in terms of dose ~~or~~, quantity or concentration of radioactive material discharged does	To take into account the actual practices of some Member States including Korea: setting the discharge limits based on concentrations of radioactive materials at the discharge point or at the site boundary	Yes			

		not represent a fundamental difference, but rather one of preference, because dose and quantity or concentration are directly proportional for any given site, and one can be converted to the other without difficulty. However, while a quantity or concentration of radioactive material is a measurable magnitude, dose to members of the public is always based on an assessment [I-1].					
6	§A.18	For example, airborne discharges from nuclear power plants are often grouped as follows: noble gases, halogens or iodine isotopes, ~~and~~ particulates, tritium, and C-14. This grouping reflects dosimetric considerations: noble gases result in external exposure to the whole body, iodine isotopes result in thyroid doses, and particulates usually present a potential hazard of inhalation or ingestion to all of the organs and tissues of the body. They also reflect different ways of sampling and quantifying the discharges. […]	Tritium and C-14 are typical radionuclides on which nuclide-specific discharge limits are usually imposed and for which different sampling/measuring methods are applied.	Yes			
7	§2.22	(e) to ~~:~~ "submit to the regulatory body the findings of (a) – (d) as an input to the establishment by the regulatory body […] of authorized limits on discharges and conditions for their implementation".	Typos and other miscellaneous errors	Yes			
8	§5.14	[…] A graded approach should be used when considering radioactive discharges.~~.~~		Yes			
9	§5.113	[…] scientific bodies and		Yes			

		environmental groups (see Refs. [11] and [2]).					
10	§5.116	As noted in paragraph ~~2.9~~ 2.20 there is a requirement […]		Yes			