

From: Robert Meck *RE: Jim*
To: Kennedy, James; Steve, Collins,
Date: Fri, Feb 7, 2003 9:35 AM
Subject: Re: ISCORS meeting and IAEA DS161

Dear Steve and Jim:

Attached is the requested file. There is no problem sharing it with the CRCPD, I am advised by my Branch Chief, Cheryl Trottier.

Best regards,

Bob

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>>> "Collins, Steve" <Collins@idns.state.il.us> 01/31/03 02:38PM >>>
Please forward this to Bob Meck or the appropriate individual as a request to send me (electronic is fine) a copy of the final U.S. comments on IAEA DS161.

The following statement was in the minutes of the ISCORS meeting:

After several rounds of review and consultation, the Subcommittee coordinated and prepared the U.S. comments on the IAEA DS161 Draft Safety Guide entitled, "Radionuclide Content in Commodities not Requiring Regulation for Purposes of Radiation Protection" and the accompanying Safety Report, which had served as the technical basis for the document. It was recommended that all ISCORS members obtain a copy of the U.S. comments in order to better understand the U.S. position.

Also, is the document now something that could be shared with CRCPD and other state RCP folks?

B-23

Title: Radionuclide Content in Commodities not requiring Regulation for Purposes of Radiation Protection DS161

Comments by Reviewer Reviewer: NRC REVISIONS [OF: Consolidated U.S. Member State Comments] Page ___ of ___ Date: 1 October 2002 Country/Organizations: USA/NRC, DOE, EPA, DOL				Resolution			
Comment No.	Para/Line No.	Proposed New Text	Reason	Accepted	Accepted but modified as follows	Rejected	Reason for modification/rejection
1	General-- Applies to the scope and use of the document	The U.S. does not object to establishing for commodities concentration levels of artificial radionuclides based on a criterion of less than 10 μ Sv in a year to an individual. Nor does the U.S. object to a separate criterion applied to naturally occurring radionuclides based on practicality of implementation and with a reference to concentrations occurring in nature. However, the U.S. recommends that the IAEA proceed with caution with respect to this Safety Guide on commodities.	Usefulness; Scope; Completeness; Quality Clarity The U.S. has not yet established requirements for general clearance of materials or commodities. Even so, and although experience is limited, caution in proceeding is urged because of reservations about administrative, implementation, and technical aspects of this Safety Guide.				

2	General-- Applies to the scope and use of the document	The SDLs need to be reviewed in the context of other regulatory areas. These include the Code of Conduct on the Safety and Security of Radioactive Sources, including security concerns for detection of illicit trafficking, source safety in trans-boundary shipments, the implications for exceeding the surface contamination requirements for transportation of materials, and harmonization with EC clearance levels.	Usefulness; Scope; Completeness; Quality Clarity There are other concerns besides radiological protection. These have to be taken into account for implementation. Sensitive monitors readily detect some radionuclides at the SDLs. Caution must be taken in consideration of detection of illicit trafficking, source safety in trans-boundary shipments. Other regulatory requirements can cause more restrictive levels to be implemented.				
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3	General	<p>Implementation of the SDLs would appear to add a requirement, for authorization of a practice based only on concentration of radionuclides. This requirement departs from the principles applied in the BSS. The BSS requires justification, optimization, dose limitation, and constraint of practices. Authorization based only on SDLs would bypass these present criteria. The document should emphasize that it is intended as guidance, not as a requirements level document.</p>	<p>Scope; Completeness; Quality; Clarity</p>				
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4 [becomes 11]	1.5/4	Qualify the objective by adding text to read: "...below which regulation for the purposes of radiation protection in accordance with the BSS generally should not be required."	Scope, Accuracy, Clarity For reasons explained in comment number 29XXX, when SDLs are applied in situations other than clearance, such as intervention, or even for clearance of some materials other than metals or rubble, there is a potential for the dose criterion of 10 μ Sv in a year to be exceeded.				
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5 [becomes 13]	1.6/1	Add text to read: <i>"The scope-defining levels for artificial radionuclides are based on clearance of metals and rubble. However, they may also serve as a reference metric for radiation protection guidance applied to commodities in general. The scope-defining levels for naturally occurring radionuclides are based on practical considerations with natural concentrations as a reference. They may serve as a reference metric for radiation protection guidance applied to commodities. The scope-defining levels do not limit the application of the BSS..."</i>	Usefulness, Scope, Completeness, Quality, Clarity, Accuracy				
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<p>29 [becomes 33]</p>	<p>3.5/1</p>	<p>Add text at beginning of 3.5: <i>"SDLs for artificial radionuclides are based on clearance analyses and are most appropriately applied to clearance of metals and rubble. However, clearance analyses are not sufficient to assess doses from all potential applications of SDLs. The authority should be aware that the criterion of less than a 10 μSv dose to an individual in a year and a very low probability of approaching 1 mSv in a year may not be met for materials other than metals and rubble. In addition, it might not be met in intervention situations or other situations where large quantities of materials or equipment and relatively large quantities of radioactivity are involved. In these situations, the authority is advised to make a case-specific analysis to ensure that the dose criterion is met.</i></p>	<p>Scope; Completeness; Quality; Clarity, Accuracy The technical basis needs to be broadened. Clearance levels only apply to practices. Assessments for clearance levels limit the amount of radioactivity introduced into commerce from a practice by taking into account dilution or reconcentration from all subsequent handling, distribution, and manufacturing processes. In contrast, SDLs also allow additional amounts of radioactivity to enter general commerce from intervention and from natural sources, as well as from clearance. Implementation of SDLs would allow the same clearance concentrations to be present in any and all commodities. Thus, with SDLs the commodities from intervention and natural sources would tend to cause less dilution and more reconcentration than accounted for in the clearance assessments. Generic dose assessments of SDLs have not been performed for radionuclides in commodities throughout general commerce as could arise in an</p>					

30 [becomes 34]	3.6/6	Change to read "...selected set of exposure pathway scenarios..."	Clarity, Relevance, Quality Completeness Exposure pathways were evaluated on a nuclide-by-nuclide basis. All pathways for a scenario were not added to get a total exposure dose.				
31 [becomes 35]	3.6/5	Insert footnote after "...solid materials.": <i>"It should be noted that the assumptions in the four calculations varied among the different scenarios that were evaluated. For example, only 2 of the 3 scenarios addressed skin contamination. More restrictive clearance levels for 20 artificial radionuclides were not used. These more restrictive clearance levels applied to skin exposure and clearance of commodities other than metals and rubble."</i>	completeness, clarity, quality, usefulness, relevance. The draft Safety Report indicates that skin contamination was evaluated for metal and concrete processing (scenarios II and III), but not for typical exposure situations (scenario I). Previous IAEA dose assessments for clearance of "all materials [other than metals or rubble]" should be included for completeness and transparency.				

32 [becomes 36]	3.7/2	Resolve discrepancy between DS161 and supporting draft Safety Report, Section 3.3, end of 10 th paragraph and Table III of the same report on whether a factor of 10 was multiplied with clearance levels. The statement in the Safety Report appears to be in error and should be deleted.	Clarity, Usefulness, Completeness, Quality, Relevance. The draft Safety Report section 3.3, end of 10 th paragraph, states that values in Table 1 of the draft Safety Guide were increased by a factor 10 to account for the conservatism in metal and concrete scenarios. This statement appears in error upon examination of the levels for clearance				
33 [becomes 37]	3.8/1	Replace first sentence by: <i>"The calculations were performed for clearance of solids from an authorized practice. Similar analyses for liquids and gases have not been performed."</i>	Quality, Clarity, Usefulness, Scope, Relevance. There is no rationale, basis or analyses presented to support the assertions that the calculations for solids are, in fact, appropriate for liquids or gases. Counter examples might include large storage tanks or pipelines.				

34 becomes 38]	4.1/1	Change to read: <i>"Materials and equipment [alternatively: Commodities] cleared from an authorized practice with activity concentrations below those derived from clearance scenarios in the Safety Report should not be subject to regulatory controls from radiological protection considerations."</i>	Quality, Relevance, Completeness, Scope Clarity. If the SDLs in DS161 were applied to all commodities, they would not necessarily meet the dose criteria. See comment 29.				
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