

General Conference

**From:** Robert Meck <sup>6223</sup>  
**To:** Bishop, Lee; Brøaddus, Doug; Brummett, Elaine; Cardile, Frank; Chen, Chia; Collins, Steven; Farrand, David; Feldman, Carl; Gnugnoli, Giorgio; Huffert, Anthony; Kopsick., Deborah; Neave, John; Vazquez, Gustavo  
**Date:** Wed, Aug 21, 2002 2:11 PM  
**Subject:** NRC Chairman Meserve's Brief on SDLs for General Conference

Dear Colleagues,

My initial email had only the WordPerfect file (that's what we use at NRC). For those who need MS Word, here is a resend with both formats.

Please see attached.

Regards,

Bob

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**CC:** Clark, Mary; Cool, Donald; Essig, Thomas; Frant, Susan; Holahan, Patricia; Kennedy, James; Klementowicz, Stephen; Lieberman, Jodi; Peterson, Harold; Trottier, Cheryl; Winebrenner, Katie

**Clearance** -The Department of Nuclear Safety has been working with its Member States for approximately ten years to address the issue of disposition of materials from the nuclear fuel cycle and other non-defense related nuclear activities (e.g., medical laboratories) which have little or no residual radioactivity. This process of releasing such material from regulatory control has been referred to as "clearance" in the international community. Following the General Conference of 2000 and a February 2001, senior experts' meeting in the UK, efforts to develop clearance levels were subsumed by a broader scope effort to develop "scope defining levels" (SDLs).

As part of this effort, a number of Federal Agencies (NRC, EPA and DOE) have been involved in the preparation of an IAEA safety guide, entitled Radionuclide Content in Commodities not Requiring Regulation for Purposes of Radiological Protection (DS-161), which focuses on radioactivity concentrations in commodities (excluding food and drinking water) below which regulation under the IAEA's Basic Safety Standards should not be required. Conversely, concentrations of radionuclides above the SDLs would require authorization, i.e., licenses, under the Basic Safety Standards (BSS).

The U.S. and other Member States are currently reviewing the March 2002, version of DS-161, which was approved by the relevant Safety Standards Committees for distribution for Member State comment. The interagency community, including NRC, DOE and EPA, has prepared a number of comments for submission to IAEA. The comments specifically address the IAEA's approach to development of the SDLs, potential dose consequences, and the relationship of SDLs to clearance. These comments should be resolved before the IAEA publishes DS-161 as a Safety Guide.

Although there are no U.S. regulations for clearance, the U.S., and specifically the NRC, is considering whether or not to conduct a rulemaking in this area.<sup>1</sup> NRC is currently developing technical information and reviewing policy issues associated with control of solid material, including consideration of both domestic and international issues on compatibility of the levels. The Federal agencies see value in participating in the process of international guidance development. This participation is important to ensure sound and coherent national and international regulations.

The General Conference's request to develop radiological criteria for long-lived radionuclides in commodities (GC(44)/RES/15) appears narrower in scope than SDLs. Authorization of practices are currently addressed in the IAEA Basic Safety Standards, and requirements for authorization are based on the radiation protection principles of justification (net benefit), optimization (ALARA), limitation of dose, and dose constraint. DS-161 proposes to require authorization under the BSS on the basis of radionuclide concentrations (SDLs) presented in a Safety Guide, as opposed to in a Safety Requirement. Clarification is needed on IAEA's procedures for establishment of new requirements.

From an implementation point of view, almost a fifth of the SDLs recommended in the draft document are significantly less restrictive than clearance levels established in European Commission's Radiation Protection No.122 clearance guidance. These disparities might complicate international trade. Concentrations that could not be cleared in a EU country, could enter that country from a foreign Member State where those same concentrations would not

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<sup>1</sup> SECY-02-0133 requested Commission guidance regarding the staff recommendation to conduct a rulemaking to establish regulations on control of solid material. An SRM has not yet been issued.

require radiological control.

As another matter, SDLs applied to naturally occurring radionuclides are based on the world-wide distribution of concentrations of these radionuclides, while SDLs applied to artificial ones are intended to limit the doses to individuals to less than 10  $\mu$ Sv in a year. DS-161 states that a basic criterion for both approaches is that there is a low probability of an individual being exposed to more than 1 mSv in a year. This is consistent with the BSS requirement that public exposures are kept below 1 mSv in a year. However, the SDLs significantly exceed this limit for low probability clearance scenarios for six out of twenty naturally occurring radionuclides and two exceed the 1 mSv limit for realistic clearance scenarios.

#### Clearance - Talking Points

The Secretariat prudently removed consideration of foodstuffs and drinking water from the current draft of DS-161. The organizations that have the authority to set radionuclide concentration standards for these commodities are the Codex Alimentarius Commission (CAC) and the World Health Organization (WHO), respectively.

Further, the Secretariat is encouraged to extend their technical considerations beyond clearance of commodities from a practice to the dose implications for application of SDLs to all commodities in an intervention situation. The relationship between clearance and implementation of SDLs in all commodities should be clarified.

In addition, the application of the principles of radiation protection and consistency with public dose limits as required by the BSS should be maintained. The Secretariat should also give careful attention to avoid potentially incompatible international trade and transport situations. The interagency community in the U.S., including NRC, DOE, DOL (OSHA), and EPA, has a number of comments that should be resolved before the Safety Guide is published.

- Note NRC's active participation in drafting DS-161 and working with the IAEA on the clearance issue.
- Note also the fact that the Commission has not yet decided on whether or how NRC might proceed regarding comprehensive clearance standards in the U.S.
- Add that, despite this, NRC would like to continue to work with the IAEA to harmonize the levels being considered in the international community.
- Express U.S. concerns regarding expansion of DS-161 to include scope defining levels (SDLs) to be used for authorizing practices. Note that this goes beyond the scope of the General Conference resolution to develop radiological criteria for long-lived radionuclides in commodities.
- Suggest that final approval of DS-161 be delayed until these and other concerns are resolved.

**From:** Robert Meck  
**To:** Broadus, Doug; Brummett, Elaine; Cardile, Frank; Chia, Chen,;  
 farrand.david@hq.navy.mil; Feldman, Carl; Gnugnoli, Giorgio; Gustavo.Vazquez@eh.doe.gov; Huffert,  
 Anthony; John.Neave@em.doe.gov; Kopsick.Deborah@epa.gov  
**Date:** Thu, Aug 22, 2002 12:08 PM  
**Subject:** RE: NRC Chairman Meserve's Brief on SDLs for General Conference

Dear Chia and Other Colleagues,

Thank you for your comment and efforts. The three main points that you make below have been incorporated in the latest revision of the combined U.S. comments. The one on foodstuffs and water is comment number 10, and the follow-on about cooperative development of levels for foodstuffs and water is comment 11. The one about our experience and reservations and issues is comment number 1.

When we began consensus building on these comments, we agreed that if a single agency had a differing view in the end, then that view would be presented separately as that agency's differing view. This approach, hopefully, will relieve your concerns about the potential views of the NRC Chairman. I think that the work of the ISCORS Recycle Subcommittee has been professional and effective, and I thank everyone for their efforts and contributions.

Best regards,

Bob

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>>> "Chen, Chia" <chia.chen@osha.gov> Wednesday, August 21, 2002 10:07:41 PM >>>  
 Bob.

This is following my comments on the "Revised U. S. Comments on IAEA DS 161," in the telephone conference on 8/21/200 at 10 am.

I have commented before that 'foodstuff and water should be taken off the list' and 'if there is action on them, IAEA should work with relevant organizations, such as FAO and WHO, in UN.' Thus, I suggest now that the US provides the following three general comments:

First, the U. S. welcome that the 'foodstuff and water were taken off from the list of the commodities.' The foodstuff and water should be treated specially because of their important to human health.

Second, in case there is action on foodstuff and water, it should have cooperative actions with relevant organizations, such as FAO and WHO, in UN.

Third, the U. S. does not have experience in this area; it may have some unforeseen concerns and implementation issues in the future. The U. S. reserves the right to raise them at proper times.

These are of my ideas and of others; the wordings could be modified and improved. Especially, the State Department should be consulted to make the third item read diplomatically.

I have defends NRC before that NRC represents US in the IAEA on this issue and no other single agency should provide IAEA with its own comments. I heard this morning that the NRC Chairman could veto any one of the comments. I hope that my hearing or my perception is wrong. The comments are formulated by serious deliberation among Federal Agencies under the framework of ISCORS. If NRC Chairman has different opinion on any comment, it should come back to this ISCORS Subcommittee to be resolved. The cultivated cooperative spirit of this ISCORS Subcommittee should be protected and preserved.

I think I have voiced my specific comments during this morning session. I will take another close look at the 'revised US comments' tomorrow. I will let you know if I have any. Thank you.

Regards,

Chia Ting Chen.

-----Original Message-----

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 To: [Gustavo.Vazquez@eh.doe.gov](mailto:Gustavo.Vazquez@eh.doe.gov); [John.Neave@em.doe.gov](mailto:John.Neave@em.doe.gov); [Kopsick.Deborah@epa.gov](mailto:Kopsick.Deborah@epa.gov); [farrand.david@hq.navy.mil](mailto:farrand.david@hq.navy.mil); Anthony Huffert; Carl Feldman; Doug Broaddus; Elaine Brummett; Frank Cardile; Giorgio Gnugnoli; Chen, Chia  
 Cc: [harold.peterson@eh.doe.gov](mailto:harold.peterson@eh.doe.gov); [katie.winebrenner@em.doe.gov](mailto:katie.winebrenner@em.doe.gov); [Clark.marve@epa.gov](mailto:Clark.marve@epa.gov); Cheryl Trottier; Donald Cool; Jodi Lieberman; James Kennedy; Patricia Holahan; Susan Frant; Stephen Klementowicz; Thomas Essig  
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Klementowicz, Stephen; Lieberman, Jodi; Trottler, Cheryl