

PR 20,30,31,32,33,35,50,61,62,72,110,150,170, and 171
(71FR42952)

From: "Alan N." <alan333@gmail.com>
To: <lwc1@nrc.gov>
Date: Thu, May 18, 2006 3:27 PM
Subject: Rulemaking, Byproduct Definitions....651 e

DOCKETED
USNRC

August 3, 2006 (3:10pm)

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

Dear Ms Chang -

I would like to have opportunity to comment, before the Final Regulations of Section 651 (e) of the Energy Policy Act of 2005 are finalized. Specifically, I would like to comment on the transport, trade, etc of Radium-226 sources in commercial products.

As I understand it from the below email and from the Rulemaking website, The NRC is not soliciting public comments on the *draft* of the proposed rule package. Only after the NRC approves the rule package proposal, will it be published in the Federal Register, at which time members of the public can comment.

I think it might be useful to allow the public to comment on the draft of the proposal, before consideration of this draft. The further along a proposal moves in the system, I wonder, the less likely anyone can be bothered to go back to the table and make changes!? Well, I would like to comment on the Definition of Byproduct materials as it relates to Radium 226.

I am a radiologist by profession, but also collect old wristwatches. There is a huge worldwide interest in vintage watches, and over the past ten years or so, there has been a tremendous increase in virtually unregulated (or if any regulations, then unenforced) trade of these watches, many of which have highly radioactive dials and hands. Most of these are sold through internet auction sites like eBay, or on various personal websites.

I am convinced that the majority of the people buying these watches have no idea they are so radioactive or even radioactive at all.

I am even more convinced that "innocent bystanders" such as the woman on the train whose ovary gets a dose from a fellow commuter's wristwatch or the newborn baby who's held by the uncle who loves vintage watches, or the postal worker who handles all the packages, etc..

Because the luminous scintillating material in the paint mixture is no longer working, worn out, the radioactivity is remarkably silent; the watch does not glow and the user has no idea the radiation is still intense. Please have a look at this image:

<http://alanwatch.homestead.com/files/xraygroup1a.jpg>

I laid a group of ordinary looking old wristwatches, bought on eBay, on a sheet of xray film, and then processed the film.

I am pleased that the NRC is including radium in it's expanded byproducts. I am hopeful that the issue of "grandfather's old watches" as it is sometimes innocuously referred to, receives some consideration and legislation. I worry that the Commissioners might understandably think that these old radium dial watches, which stopped production in the Midcentury, are things of the past, relics which maybe a few grandfather's still wear. The reality is very

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different; these watches are enjoying a huge resurgence in popularity and as mentioned are being bought and sold across the world.

In my opinion the sale, and use of vintage radium dial watches is not in keeping with ALARA. As lovely as many of these watches are, there is no justification for their use. There are plenty of vintage watches which are not radioactive.

Some make the argument that "unless you eat the watch" it's safe. They argue that the radium inside the watch stays in the watch unless it is opened. Firstly, many people do open these watches, to tinker with them try to repair, clean dials, replace hands, etc. With the interest in these watches comes a lot of amateur watchmaking among the devotees, and visiting any vintage watch forum will find many diligent people showing their progress in repair, restorations, etc. Secondly, many of these watches are bought and sold in poor condition, open, not "sealed" etc. Often a watch is sold with the crystal (glass) missing and the radium paint on the dial exposed to the outside, often losing bits and pieces of the material in flakes and dust which can go anywhere. I have seen these. The watch cases are often in poor condition or with missing backs. The radium powder/dust can and does get out of these cases.

Quite apart from any actual ingestion/internalization of the radium powder (which supporters of the free trade of these radioactive products seem to rally around, noting the fact that no one eats wristwatches,) is the issue of external beam radiation, radiation from an "intact" watch. The images I showed in the link above were obtained with an "intact" watch, not with crystal removed. The high energy photons from the radium decay easily pass the watch crystal and will then land on the next object, such as my body, or a random passenger in the plane seat next me.

I am saying this in an as unpassionate and undramatic way possible, but: people are unwittingly exposing themselves, their loved ones and the random public to potentially harmful radiation.

If I am a biosciences company, and I want to send a few microcuries of some kind of radiolabelled bioproduct with a very short half life, and low energy to a research lab, the NRC requires that I shield the product in lead, package it according to standard, and clearly label the outer box with the familiar radhaz symbol. When then, simply because it is a post-consumer item, can anyone drop a radium dial watch, having a much longer half-life and much higher energy than the pharmaceutical, into a plain brown packet and post it across the world, just like any mailed item?

When the lady at the USPS asks "is there anything liquid, perishable, hazardous or breakable" when you post a package, are you supposed to tell her, "yes, I am sending a radioactive watch?" If not, should not the law require it?

I am not sure what rulemaking would best address, but I kindly and earnestly encourage the Commissioners in charge of the Byproduct Definition to consider the thoughts in this email, and see if it's fitting the address, specifically as a consumer product rather than as radium in general, radium dial watches. I don't think activity thresholds will be useful or practical; any rulemaking would have to consider "radium dial watch" as an entity, and one radium dial watch should be considered like the next.

Thank you for your consideration. I would appreciate your thoughts.

Sincerely,
Alan P. Nazerian, MD
Chicago

On 4/24/06, Rulemaking Rulemaking <Rulemaking@nrc.gov> wrote:

> Dr. Nazerian,

>

> I believe what you are looking for is a draft rulemaking entitled
"Requirements for Expanded Definition of Byproduct Material (NARM)." It can
be found on NRC's Rulemaking website (RuleForum) at
<http://ruleforum.inl.gov>

>

> From the RuleForum home page, select Other Rulemaking-Related Comment
Requests near the bottom of the left-hand tool bar. This draft rulemaking
has not been published for comment yet. The Commission is reviewing the
proposed rule package and will vote on it at a later date.

>

> Comments can be submitted after the rulemaking has been published in the
Federal Register.

>

> If this is the draft rulemaking you are interested in, contact Lydia Chang
at(301) 415-6319 (lwc1@nrc.gov) for any additional information.

>

> Hope this information is helpful.

>

> rulemaking@nrc.gov

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Subject: Fwd: Rulemaking, Byproduct Definitions....651 e
Creation Date 07/28/2006 4:02:21 PM
From: Lydia Chang
Created By: LWC1@nrc.gov

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From: Lydia Chang
To: Evangeline Ngbea
Date: 07/28/2006 4:02:26 PM
Subject: Fwd: Rulemaking, Byproduct Definitions....651 e

Hi Van:

We also need to docket the attached e-mail as part of the public comment on the NARM proposed rule (RIN 3150-AH84) because this commenter specifically asked me to docket it once the proposed rule is published in the Federal Register. Thanks...

Lydia C.

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Subject: Rulemaking, Byproduct Definitions....651 e
Creation Date Thu, May 18, 2006 3:26 PM
From: "Alan N." <alan333@gmail.com>

Created By: alan333@gmail.com

Recipients

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LWC1 (Lydia Chang)

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