**Mail Envelope Properties**  
(44B58B53.A1A : 7 : 31258)

**Subject:** new 2.202 petition  
**Creation Date:** 07/12/2006 6:52:24 PM  
**From:** James Salsman <james@bovik.org>

**Created By:** james@bovik.org

**Recipients**
nrc.gov  
OWGWPO02.HQGWDO01  
PFG CC (Paul Goldberg)

aol.com  
Dlind49 CC

yahoo.com  
tjlodge50 CC

nrc.gov  
OWGWPO03.HQGWDO01  
JXD CC (Jerry Dozier)

nrc.gov  
TWGWPO01.HQGWDO01  
LAR1 (Luis Reyes)

**Post Office**
OWGWPO02.HQGWDO01

OWGWPO03.HQGWDO01  
TWGWPO01.HQGWDO01

**Files**  
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<th>Date &amp; Time</th>
</tr>
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<td>12056</td>
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</tr>
</tbody>
</table>

**Options**

**Expiration Date:** None  
**Priority:** Standard  
**ReplyRequested:** No  
**Return Notification:** None

**Concealed Subject:** No  
**Security:** Standard
Dear Mr. Reyes:

Pursuant to 10 CFR 2.202, I request that all licenses allowing the possession, transport, storage, or use of pyrophoric uranium munitions be modified to impose enforceable conditions on all such licensees as described below, and any other corrective action as deemed proper by the Commission.

Further information has come to light since my petition of 3 April 2005, as amended 26 April 2004, and further amended 19 October 2005, which I incorporate in its entirety by reference to its web location: http://www.bovik.org/du/du-petition.html

For example, the petition of 3 April 2005 as amended did not include any information from the new scientific and medical references [1], [2], [3], [6], [7], [8], [12], [13], and [14] below. As you are aware, when new information previously unavailable comes to light, new 10 CFR 2.202 petitions similar to previous petitions must be considered.

The basis for this request is the gross negligence on the part of the licensees, in, among other things, failing to ever measure the gaseous products of uranium combustion and thereby failing to establish the correct toxicological profile of uranium combustion product exposure.

As the Office of the Secretary of Defense's own Depleted Uranium Environmental Exposure Report states: "when DU burns, the high temperatures created act to oxidize uranium metal to ... uranium trioxide (UO3)." [1]

Recently, I have exchanged emails with Dr. Carl Alexander at Battelle (telephone 614-424-5233), who recently published a very important paper in uranium trioxide gas thermodynamics. [2] Dr. Alexander's reply [3] has convinced me that the urine tests used for DU exposure testing are misleading, and that it is essential to measure the amount of UO3 gas produced by uranium munitions, not just the particulate solids.

UO3 gas is produced when uranium burns. Most of it condenses and decomposes into U3O8, which comprises 75% of the solid particulate combustion product. [4] However, some of the UO3(g) will escape into the air before it can condense with other UO3 molecules to form U3O8. Nobody has ever measured the gas products of uranium combustion. So far, only the solid combustion products have been measured. UO3 residue has been detected from uranium munitions fires. [5]

Uranyl absorption from UO3 gas inhalation is immediate, while absorption from U3O8 particles is much slower, because U3O8 is partially soluble. [6] The particulate aerosols diffuse through the air at a different rate than UO3 gas. Therefore, UO3 gas exposure will not always occur simultaneously with particulate oxide exposure. Uranyl ions absorbed by cells from the bloodstream soon become undetectable in the urine, as renal elimination occurs with a half-time of less than two weeks. [7]

Since UO3 gas may be encountered without particulates, urine isotope ratio studies which depend on detecting uranium from slowly dissolving
uranium oxide particles do not necessarily indicate uranium combustion product inhalation exposure, or the extent of uranyl poisoning. The toxicological profile of uranyl poisoning is dependent on elimination effects, such that a small dose occurring quickly (such as from UO$_3$ gas) will have a different physiological effect than from a larger dose occurring over a longer period of time (such as from U$_3$O$_8$ particle dissolution in the lungs.) All uranyl poisoning is genotoxic and teratogenic, increasing the probability of chromosome aberrations in white blood cells and birth defects in children. [8] A 2001 survey of 15,000 U.S. Gulf War combat veterans and 15,000 control veterans found that the Gulf War veterans were 1.8 (fathers) to 2.8 (mothers) times as likely to report having children with birth defects. [9]

Therefore, empirical measurement of the amount of UO$_3$ gas produced by uranium combustion is necessary for determining the proper medical response to uranium combustion product exposure.

Furthermore, karyotyping measurements of chromosome aberrations will proportionally reflect uranyl exposure, in addition to other genetic damage. Unless these questions are addressed, then people will continue to make the mistake of using urine testing to measure exposure instead of karyotyping. [10]

Finally, depleted uranium has just over the past year recently been confirmed as a neurotoxin in multiple peer-reviewed medical reports, leading to increased concern. [11]

As before, this is an exceptionally grave issue involving significant safety and environmental issues. Because of the substantial reproductive harm caused by uranyl poisoning, it is clear on the face of the allegations that a result materially different from the issuance of the existing licenses would have been likely had uranium trioxide vapor emission from uranium munitions been considered upon the initial applications for the licenses allowing them.

I ask for the following remedies:

(a) I request that all uranium munitions licenses be explicitly modified to require a good-faith effort to quantify the dates, times, locations, quantities, and types of pyrophoric uranium munitions use, along with an estimation of the kinds of targets involved, and also provide any available information which might further specify the amounts, locations, times, and results of pyrophoric uranium munitions use.

(b) I request that those licenses be explicitly modified to require the licensees to determine the amount of uranyl oxide gas produced in pyrophoric uranium munitions combustion in air under typical and observed use conditions.

(c) I request that those licenses be explicitly modified to require the licensees to determine the determine the extent of both reproductive and developmental toxicity from typical uranium combustion product inhalation in at least five diverse species of mammals (e.g., chimpanzee, pig, sheep, rabbit, mouse) using chromosome aberration analysis of lymphocytes and gonocytes in statistically significant numbers of exposed and control animals.

(d) I request that those licenses be explicitly modified to require the licensees to publish their estimates and determinations from the license modifications specified in remedies (a), (b), and (c) above, and provide for the independent verification of all such studies’ aspects, through the use of anonymous bidding of contracts for replication and auditing of data gathering and analysis, and also through the use of requiring that both initial and validating
studies be published only in the peer-reviewed medical or scientific literature.

I also ask for any further corrective action as deemed proper by the Commission, such as the financial penalties requested in my petition of 3 April 2005, as amended.

Because this request involves the conduct of military functions, in accordance with 10 CFR 2.301, I again ask that the Commission provide an alternative procedure for adjudication allowing the immediate issuance of orders to protect the health of United States armed forces currently at risk of exposure to uranium munition combustion products. This request for an alternative procedure includes but is not limited to: foreshortening of the Commission's customary time limits in accordance with 10 CFR 2.307(a), expedited issuance of an initial order in accordance with 10 CFR 2.339(a), and/or the use of expedited proceedings in accordance with 10 CFR sections 2.1400 through 2.1407.

I would be happy to answer questions concerning this petition. I may be reached by telephone at 650.793.0162 or by email to james@bovik.org. Please note my new postal address:

353 Aldean Ave
Mountain View, CA  94043

Please confirm receipt by return email.  Thank you.

I certify under penalty of perjury that the forgoing is true and correct.

Sincerely,
James Salsman

P.S.  This petition is located at:

References:
http://www.cerrie.org/committee_papers/INFO_9-H.pdf


http://dx.doi.org/10.1016/j.tox.2005.05.002

 Subject: Re: new 2.202 petition [correcting some typos]
Creation Date: 07/12/2006 7:27:47 PM
From: James Salsman <james@bovik.org>

Created By: james@bovik.org

Recipients:
nrc.gov
OWGWPO02.HQGWDO01
  PFG CC (Paul Goldberg)
aol.com
  Dlind49 CC

yahoo.com
  tjlodge50 CC

nrc.gov
OWGWPO03.HQGWDO01
  JXD CC (Jerry Dozier)
nrc.gov
TWGWPO01.HQGWDO01
  LAR1 (Luis Reyes)

Post Office:
OWGWPO02.HQGWDO01

OWGWPO03.HQGWDO01
TWGWPO01.HQGWDO01

Files
MESSAGE 11018
Mime.822 12302

Date & Time: 07/12/2006 7:27:47 PM

Options
Expiration Date: None
Priority: Standard
ReplyRequested: No
Return Notification: None

Concealed Subject: No
Security: Standard
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James Salsman
353 Aldean Ave.
Mountain View, CA 94043

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I certify under penalty of perjury that the forgoing is true and correct.

Sincerely,
James Salsman

P.S. This petition is located at:

References:


