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From: [REDACTED]
Sent: Monday, May 12, 2008 6:04 PM
To: NIOSH Docket Office (CDC)
Subject: 120 - NIOSH Alert: Beryllium
Attachments: [REDACTED] comments on NIOSH Beryllium Alert.doc

The attached Word document contains my comments for submission to NIOSH Docket Number 120.

The following comments are provided by:

Disclaimer: These comments represent the viewpoint of the commenter, and do not necessarily reflect the viewpoint of the commenter's employer or of the U.S. Department of Energy.

Comment 1

On page iii and on page 9, under "Recommendations (to) workers", consider adding the following recommendation: "Take maximum advantage of engineered features, such as ventilation and beryllium containment, to reduce potential exposure." While employers should provide such features to the extent appropriate, it is up to workers to actually use those features.

Comment 2

On page iv and on page 10, under "Recommendations (to) employers", the bullet currently worded "Keep airborne concentrations of beryllium as low as possible, since no safe exposure limit for beryllium is known", should be changed to "Keep airborne concentrations of beryllium as low as possible, since a safe exposure limit for beryllium has not been determined." The current wording will be construed by some to equate to a safe exposure limit of zero, when in fact there may be a safe exposure limit that will be identified by ongoing research. There may be separate limits for soluble beryllium from insoluble beryllium (an article by McCawley et al. is currently in review for publication by the *Journal of Occupational and Environmental Hygiene*).

Comment 3

Page 4: For the paragraphs beginning "Certain genes appear to cause ..." and "Acute beryllium disease has been diagnosed", it would be appropriate to cite references supporting these statements.

Comment 4

(Hold for the 10-100% issue on page 5)

Comment 5

Page 8, Other Limits: It is not entirely correct that Canada uses the 2.0 $\mu\text{g}/\text{m}^3$ limit as stated here. Quebec province recently lowered its limit to 0.15 $\mu\text{g}/\text{m}^3$ (see www.irsst.qc.ca for details). Also, BGIA in Germany maintains a database of European exposure limits for beryllium and other hazardous materials (part of the GESTIS series of databases available at www.hvbg.de/e/bia/index.html).

Comment 6

The document makes only one passing mention of a single sampling/analytical method for beryllium, NIOSH Method 7102. A more complete listing of sampling and analytical

methods is available via the following reference: Brisson MJ et al., *Journal of Environmental Monitoring*, Vol. 8, No. 6, pp. 605-611 (June 2006). This article additionally discusses a variety of technical difficulties with beryllium analysis that continue to exist. Not the least of these is differentiation of beryllium species (such as soluble versus insoluble forms of beryllium, oxide from metal, etc.) which, as more is learned about the exposure risks from various forms of beryllium, may become increasingly important. Additionally, with respect to sampling, the following article would be of value: Harper M, *Journal of Environmental Monitoring*, Vol. 8, No. 6, pp. 598-604 (June 2006). Further information may be found in ASTM Special Technical Publication 1473, *Beryllium: Sampling and Analysis*, edited by Kevin Ashley. The commenter realizes that in a document of this type, discussion of these topics should be kept brief, but the single passing mention of one sampling/analytical method is entirely too brief.

Comment 7

On page 8, under "Other Resources", consideration should be given to listing the following additional web-based resources:

- NIOSH - www.cdc.gov/niosh/topics/beryllium
- OSHA - www.osha.gov/SLTC/beryllium/index.html
- National Jewish Medical Research Center - <http://www.nationaljewish.org/disease-info/diseases/occ-med/beryllium/about/beryllium/index.aspx>

Additionally, the DOE web citation should be updated to the following:
www.hss.energy.gov/healthsafety/wshp/be/