

Diana, Sherri A. (CDC/NIOSH/EID) (CTR)

From: Tami Thatcher
Sent: Wednesday, December 02, 2015 2:27 PM
To: NIOSH Docket Office (CDC)
Subject: Concerns about NIOSH analysis concerning the Idaho National Laboratory radiation doses

Dear NIOSH,

Following up on last year's NIOSH interviews with current and former Idaho National Laboratory employees regarding radiation exposure estimation I would like to emphasize again that the conflict of interest involving the fact that Department of Energy contractors who often were at fault for causing excessive exposures, and will be fined or have award-fees reduced due to excessive radiation exposures are in charge of the processes to estimate the radiation exposure. There has been more than one instance the I know of personally that involves INL contractors being less than forthcoming about the radiation exposure of workers, especially when the contractor is at fault for the exposure. Thus, the highest radiation doses received may not be acknowledged and existing documentation of the dose may not sufficiently allow NIOSH to estimate the actual dose a worker received.

This conflict of interest is coupled with the practice of withholding radiation dose estimation reports from the exposed employees. While an employee is provided when an annual total dose summary, an employee seeking information about how his or her internal dose was estimated must conduct a Freedom of Information Act request. This request is often initially denied for no justifiable reason, thus requiring the additional effort and time of an appeal. The time delays this involves come to many weeks, and this is only after the weeks or months that the contractor may take in order to prepare the radiation dose estimate. How does the exposed worker get competent and timely medical assistance when they do not have identification of the radionuclides and amounts taken in to the body? And worse, the employee may be branded a trouble maker simply for requesting the more detailed information about their radiation exposure. The level of conservatism in contractor radiation dose estimates is widely variable and without knowing what assumptions were made in the assessment as well as bioassay trending, a worker lacks sufficient information about the characterization of their dose. For example, contractors are not required to consider solubility class super S for plutonium exposures, even decades after the Department of Energy has found plutonium lung clearance can be much slower than assumed in officially recognized dose estimation models. Thus, lung dose for workers inhaling plutonium may be much higher than official dose estimates yield. While it is commendable that NIOSH does not rely on the contractor's dose estimates and NIOSH will conduct an analysis that can include more accurate assumptions regarding such things as solubility class, Super S for highly insoluble plutonium, NIOSH is still going to be reliant on contractor information about the exposure.

As I found no record of NIOSH having grasped these facts from several interviews that I attended or directly participated in, I want to state on the NIOSH website that the conflict of interest issue works against radiation workers and may result in underestimation of radiation dose for workers, especially those workers involved in any kind of mishap at the Idaho National Laboratory. The supposed NIOSH reviews of contractor radiation record programs and dose reconstruction appear to not factor in the intentional act of underreporting radiation doses.

I would like to also mention the fact that individuals interviewed by NIOSH have their comments recorded in a way that I can only describe as haphazard and with a bias toward a deaf ear to anything negative about Department of Energy contractors. And the comments provided by individuals to NIOSH are subsequently provided to the Department of Energy and its contractors with full identification of the person giving the comments. Thus, a current employee can expect retaliation for providing any information that can be deemed

unflattering to the Department of Energy or its contractors. Does this sound like the best way to really investigate any problems at DOE contractor's sites?

On the issue I raised to NIOSH concerning drinking water contamination at the Idaho National Laboratory, there was no meaningful response by NIOSH that I could perceive and a pervasive tendency to repeat that the Idaho Snake River Plain Aquifer is clean - just read the latest website information about it. There are two problems with this: measurements off the Idaho site have no bearing on measurements at the Idaho site's facilities. And measurements today at the Idaho site do not reflect what INL workers at various locations were ingesting in earlier decades.

The analysis necessary to estimate the levels of radioactive and chemical contaminants in INL drinking water based on intermittent and often decades-tardy monitoring, for each drinking water well and for each year of operation has not been performed. While various documents have some years of monitoring data, most decades of INL operation do not have complete monitoring or hindsight derivation of what the contamination levels were. I have compiled some highlights of drinking water contamination at the Idaho National Laboratory in a report, "The Hidden Truth About INL Drinking Water" available at <http://environmental-defense-institute.org/publications/INLdrinkwaterR1.pdf>

The Energy Employee Occupational Illness Compensation law addresses both chemical and radiological exposure. However, it is an unfortunate fact that NIOSH does not consider the damage caused by simultaneous exposure to both chemical and radiological contamination. But not having the legal requirement to consider both effects does not alleviate the increased damage to health, nor what should be learned about the exposure of workers to both chemicals and radiation. The failure to characterize, for each year of INL operation, the level of chemical contamination and radiological contamination in INL drinking water, as can be derived from plume migration and later monitoring results is a serious flaw in INL site characterization as well as NIOSH epidemiology efforts that NIOSH should have had the technical ability to identify. But NIOSH not only did not identify this problem, they seem unreceptive to acknowledging the need for a forensic analysis, so-to-speak, of past INL drinking water contamination levels.

I also want to point out how unfortunate it is that NIOSH chose not to present the bulk of Idaho National Laboratory related ongoing investigations when the NIOSH board met in Idaho in July 2015. Why would the board choose to conduct its meeting in a way that omitted the most important and INL-relevant presentation while former INL workers were in attendance? It is also extremely saddening to see the way that NIOSH meetings give public comment opportunities and yet these comments again and again appear to fall on very intentionally deaf ears, whether those of the NIOSH staff or of the oversight board. It is the image of transparency but not actual transparency (i.e., choosing not to provide presentations on INL at the Idaho Falls meeting) that matters most to NIOSH. It is the image of caring what workers and the public think but not actually caring as evidenced by lack of comprehension and lack of action. It is the image of a highly technical and scientific process that matters most to NIOSH and an absence of clarification of where existing approaches are likely to be inadequate.

The image of the Wizard of Oz, providing a pageant, smoke and mirrors all intended to mesmerize the audience comes to mind as I watch NIOSH explain how it performs radiation dose reconstruction. NIOSH seems to use technically incomprehensible jargon-filled discussions to disenfranchise former workers and family members. Communication with more clarity would no doubt lead to anger and disgust at past and continuing Department of Energy practices.

It is encouraging that NIOSH is investigating the recent petition regarding historical radiation doses at INL, Petition 219. Without that petition, many of the recent discoveries of inadequate radiation protection of INL would not have occurred. NIOSH and its contractors are to be commended on the ongoing investigations that

have found sufficient evidence for establishing radiation cohorts for workers than would not have an adequately monitored and recorded dose.

NIOSH, despite the name: “National Institute of Occupational Safety and Health” appears to take no interest in the health of current employees as evidenced by the refusal to identify what jobs and what INL sites have had and continue to have radiation illness claims. It would not be that difficult to do, yet because it could cost the Department of Energy money to clean up its act at various facilities, it isn’t being done. Did workers who change contaminated air filters have adequate protection? Or pipe fitters working to repair pumps and valves in radioactive systems? Or workers using bulldozers to move contaminated soil? Or workers in depleted uranium processes? Workers drinking contaminated water for decades? NIOSH chooses not to be able to answer these questions.

In reviewing the November 10, 2015 presentation regarding the Idaho National Laboratory’s Test Reactor Area, “INL Test Reactor Area Nuclear Modeling,” a presentation given in Ohio and not in Idaho, I find the presentation raising many questions regarding the estimation of unmonitored fission products. The presentation characterizes the reactor fuel used in reactor’s there but makes no mention of the many experiment fuels and experiment materials, often destructively examined both in reactor facilities and laboratory facilities at TRA. The shortcomings would not be apparent to anyone in Ohio.

As I have witnessed very incorrect and incomplete understanding of various issues at INL expressed by NIOSH personnel such as “all the plutonium at INL is safely bound up in reactor fuel” when plutonium has been and continues to be emitted by various INL facilities as evidenced in site environmental monitoring reports. Plutonium and other radionuclides have been blowing in the wind from disposal and subsequent flooding of the disposal site at the Radioactive Waste Management Complex. Airborne releases of plutonium from RWMC’s cleanup efforts have been high, even with supposed air filtering. Thus, I have heard with my own ears placating falsehoods spoken by supposed NIOSH INL experts, so I have come to not trust the completeness of understanding of NIOSH experts trying to comprehend the enormous variety and complexity of operations at the Idaho National Laboratory. Given the historical shortcomings of NIOSH’s ability to grasp the operations at INL, NIOSH should be making an effort to get feedback from INL workers. Withholding INL presentations while in Idaho and giving INL presentations while in Ohio isn’t really an excellent way to proceed.

I appreciate the difficult technical challenge that radiation dose reconstruction at INL entails. I appreciate that progress that has recently been made in investigating the INL Petition 219. But I wish to caution former workers and NIOSH about the longstanding tendency of NIOSH to avoid seeing, hearing, acknowledging or acting in any way that might cast a negative view on nuclear radiation and Department of Energy operations.

And I will close with this suggestion. Before I hear one more time from one more NIOSH person how “people get cancer – radiation doesn’t cause cancer” or something to that effect, I suggest that these highly educated NIOSH people so sure that radiation doesn’t cause cancer and so eager to informally inform people at NIOSH events of this fact read the latest epidemiology study for occupational exposure to ionizing radiation by Richardson published in 2015. [Richardson, David B., et al., “Risk of cancer from occupational exposure to ionizing radiation: retrospective cohort study of workers in France, the United Kingdom, and the United States (INWORKS), *BMJ*, v. 351 (October 15, 2015), at <http://www.bmj.com/content/351/bmj.h5359> Richardson et al 2015] (And please note that studies of high leukemia risk in radiation workers and of ongoing studies to assess health effects of high and low-linear energy transfer internal radiation must also be studied in addition to this one on external radiation.)

Thank you.
Sincerely,
Tami Thatcher