

From: Bernd Franke, IFEU (for IEER)
To: Arjun Makhijani (IEER) Joni Arends (CCNS), John Till and Helen Grogan (ITAT)
Date: September 5, 2002
Re: Stack monitoring QA program

The new stack monitoring system for the CMR building has to comply with the quality assurance provisions of Subpart H, specifically those described in 40CFR61, Appendix B, Method 114, section 4. It is the purpose of this memorandum to suggest that the ITAT should carefully evaluate the whether the quality assurance requirements are met in their entirety for the new system.

Both the "old" and "new" sample systems were in operation in 2001. The "CMR comparison writeup" by David Fuehne of July 5, 2002 indicates a statistical difference between the radionuclide results for the annual source term. There was a statistical difference in 30 out of 54 comparisons of composite results. It appears to me that the observed difference allows is an important piece of information for the determination of the "precision, accuracy and completeness" of the emission measurement data (Method 114, section 4.4). I suggest that ITAT review whether the quantitative results should become part of the documentation of the accuracy of the stack sampling system.

In addition, I would like to focus on another issue that is not limited to the monitoring of radioactive air emissions from the CMR building and is relevant for other facilities as well. Given the accident involving Pu-238 that has occurred on March 16, 2000, the issue of potential bias in particle collection and analysis of composite filters¹ deserves a revisit. I note that section 5.5.6 "Responding to increased releases" on page 84 of the Quality Assurance Project Plan for the Rad-NESHAP Compliance Project (ESH-17-RN, R2) specifies: *"If increased emissions from LANSCE have the potential to impact the Laboratory's compliance with the 10-mrem/yr standard, the responsible facility representatives will be informed within 24 hours of identification by the Rad-NESHAP Project Leader. Notifications will be made to a sufficiently high level of management to ensure that the conditions that result in the release are corrected, if possible."* In my review of LANL's Rad-NESHAP documentation, I was unable to find a quantitative evaluation of whether the above QA provision is met when accounting for the potential bias in stack sampling and analysis of composite filters if large particles of Pu-238 are the major contributor to dose. I suggest that the ITAT inquire whether such documentation exists.

I suggest that the ITAT review these issues in their evaluation of whether the QA provisions in 40CFR61 Subpart H for stack monitoring were met at LANL for the year 2001.

¹ Independent Audit of Los Alamos National Laboratory for Compliance with the Clean Air Act, 40 CFR61, Subpart H, 1998, pages 52-56