



Memorandum

To: Dr. Henry Anderson, Special Exposure Cohort Issues Workgroup Chair and Mr. Bradley Clawson, Savannah River Site Workgroup Chair

From: John Cardarelli II, Research Health Physicist

Subject: Data Completeness associated with Trivalent Logbooks

Date: 8/11/2020

This memo serves to close-out SC&A Observation 3 – Data Completeness (Trivalent Logbooks) which was presented to the Savannah River Site Workgroup on December 5, 2019 and the Advisory Board on Radiation and Worker Health (ABRWH) on December 11, 2019. These presentations are available at <https://www.cdc.gov/niosh/ocas/pdfs/abrwh/pres/2019/sca-srstib81r4-120519-508.pdf> (December 5, 2019; Slides 19 - 20) and <https://www.cdc.gov/niosh/ocas/pdfs/abrwh/pres/2019/dc-srscoexig-121119-508.pdf> (December 11, 2019; Slide 55). The discussions are available at <https://www.cdc.gov/niosh/ocas/pdfs/abrwh/2019/wgtr120519-508.pdf> (December 5, 2019; pgs 108 – 116) and <https://www.cdc.gov/niosh/ocas/pdfs/abrwh/2019/tr121119-508.pdf> (December 11, 2019; pgs 127 – 128).

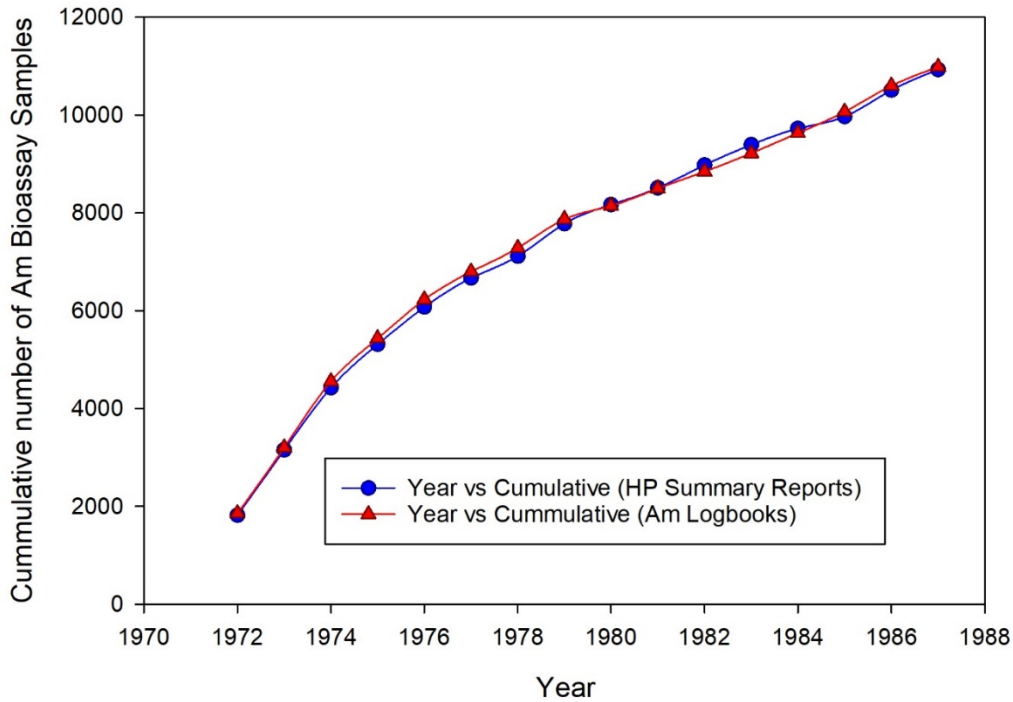
SC&A Observation 3 states “*Available trivalent logbook data show notable differences with the number of reported samples taken in 1980 and 1982. These years, and any changes in operations, are not discussed specifically in OTIB-0081. However, it is noted that a future NIOSH report on americium exposure potential at SRS is pending that may address the apparent gaps in the data.*”

Per discussions with the ABRWH on December 11, 2019, the NIOSH action was to provide references to explain the noted differences between the number of bioassay samples taken as indicated by the summary reports and the number of samples with results in the Am logbooks in a given year.

The data recorded in the ORAUT Am database uses the sample “bottle date” (e.g., the date sample was taken) to indicate the year it was obtained. If it was missing in the logbook, then the “receive date” (e.g., the date it was received by the laboratory) or “batch date” (e.g., the date the analysis was actually performed in the laboratory) was used to indicate the year associated with the bioassay sample, which results in differences in how the data are summarized. This prevents a direct apples-to-apples comparison on a year by year basis between the Am logbook data and summary statistics reported in monthly reports.

A more appropriate comparison to demonstrate completeness of the dataset is shown below. This is a cumulative plot of the number of Am bioassay samples reported in the Health Physics (HP) summary reports (blue dots) and the bioassay number of samples recorded from the Am logbooks (red triangles) from 1972 to 1987. The summary reports totaled 10,929 Am bioassay results and Am logbooks totaled 10,985 bioassay results; representing a difference of less than 1%. Since these independent measures are nearly identical for the number of Am samples processed between 1972 and 1987, NIOSH believes the Am dataset is complete.

SRS Americium Bioassay



Please contact me (jjc0@cdc.gov) if you have any questions or concerns.