Message

From: LEE, LILY [LEE.LILY@EPA.GOV]
Sent: 3/6/2018 7:16:33 AM
To: george.brooks@navy.mil; Henderson, Kim/SDO [Kimberly.Henderson@CH2M.com]
Subject: Suggested agenda item for 3/6 call - FW: CDPH-Comment Draft Work Plan Radiological Survey and Sampling Former Hunters Point Naval Shipyard

Dear Kim and Pat,

We would like to request this item for the agenda at the 3/6 mtg. Thanks!

Lily

From: Wright, Matthew (CDPH-EMB) [mailto:Matthew.Wright@cdph.ca.gov]
Sent: Monday, March 5, 2018 5:03 PM
To: LEE, LILY <LEE.LILY@EPA.GOV>
Cc: Singh, Sheetal (CDPH-EMB) <sheetal.singh@cdph.ca.gov>; Jue, Tracy (CDPH-EMB) <tracy.jue@cdph.ca.gov>; juanita.bacey@dtsc.ca.gov
Subject: CDPH-Comment Draft Work Plan Radiological Survey and Sampling Former Hunters Point Naval Shipyard

Good afternoon Lily,

Here in a short hand version is EMB's initial comment regarding the number of Samples in a Survey Unit.

"Section 4.3.3 Number of Samples in a Survey Unit, page 4-19, Table 4-3, "Number of Samples in a Survey Unit". The origins for the sigma value for Ra-226 and Cs-137 are unclear. MARSSIM states, "When preliminary data are not obtained, it may be reasonable to assume a coefficient on the order of 30% based on experience."

The sigma value for Ra-226 is shown in Table 4-3 as being 0.28. This value, though its derivation is unknown, seems reasonable to EMB. 0.28 when divided into the Δ value of 1.0 renders a value of 3.57; which when cross referenced to Table 5.3 of MARSSIM, "Values of N/2 for a Given Relative Shift (delta/sigma) α and β when the Contaminant is Present in Background", where both α and β = 0.01; renders a result of, N/2= 18. This tracks with the value shown in Table 4-3.

However, the sigma value for Cs-137; is shown as being 0.033 in Table 4-3. This value, its derivation is unknown, does not seem reasonable to EMB. It is an order of magnitude lower than the MARSSIM recommendation of 30%. Remarkably however; if plugged into the same computational order of operations as was used for Ra-226, the sigma value of 0.033 also renders a result of N/2= 18.

Notably, if the sigma value for Cs-137 is 0.33 (i.e. in the same order of magnitude as the MARSSIM recommendation), then N/2 = 614."

Please note that EMB staff is equally concerned with, Radiological Surveys NO: RP 104, Attachment 1, Acceptable Surface Contamination Levels; Note: "The acceptable surface contamination levels for Th-nat will be used unless subsequent sampling indicate the presence of Ra-226, Ra-228, Th-230 or Ac-227 in concentrations greater than the parent nuclide." These acceptance values for Th-nat are ten times the values listed for the listed nuclide.

Matthew Wright
Associate Health Physicist
CDPH-Division of Radiation Safety & Enviromental Management
Department of Defense Program
(916) 449-5687