



MEMO

DATE: November 16, 2015
TO: KCP Work Group
FROM: Ron Buchanan, SC&A
SUBJECT: Evaluation of NIOSH's KCP Dosimetry Database Validation and Verification (V&V) of November 12, 2015

On November 12, 2015, NIOSH provide the KCP Work Group (WG) a report (NIOSH 2015c) that compared the data available in the NOCTS files for KCP claimants to that found in the KCP electronic database (eDB) (NIOSH 2015b). This was to address the validation and verification (V&V) of the eDB as requested by the KCP WG.

SC&A had received the NIOSH spreadsheet titled *KCP database validation 11-6-15* (NIOSH 2015a) several days earlier and performed a very preliminary analysis, which was summarized in an e-mail on November 11, 2015, to the KCP WG (SC&A 2015). SC&A has recently analyzed NIOSH's report (NIOSH 2015c) and accompanying data spreadsheet (NIOSH 2015a) in more detail.

EXTERNAL DOSES

In comparing the annual sums in the eDB to the annual sums derived from the NOCTS files, SC&A found:

- **Neutron doses** – There were 131 annual dose sum comparisons. 111 annual dose sums agreed, while in 20 instances, there was a zero in one database and a blank in the other database. This would impact the assignment of missed neutron dose, which would be a small dose difference.
- **Deep doses** – There were 686 annual dose sum comparisons. 672 annual dose sums agreed, while 14 did not. For these 14 annual dose sums, approximately half the time there was no info, or lower dose, in the eDB, while the NOCTS had a zero, or a greater dose, entered; and approximately half the time, it was the other way around. The differences in the positive dose values were generally small.
- **Shallow doses** – There were 683 annual dose sum comparisons. 669 annual dose sums agreed, while 14 did not. For these 14 annual dose sums, approximately half the time there was no info, or lower dose, in the eDB, while the NOCTS had a zero, or a greater dose, entered; and approximately half the time, it was the other way around. The differences in the positive dose values were generally small.
- **Summary of external neutron, deep, and shallow doses** – There were a total of 1,500 annual dose sums compared, with 1,452 in agreement, and 48 not in agreement. Of the results not in agreement, some may be resolved by requesting better copies of the original datasheets from the KCP than are presently available in the NOCTS files.

URANIUM BIOASSAYS

In comparing the uranium in urine (U in U) bioassay results in the eDB to the results in the NOCTS files, SC&A found:

- There were 181 annual urinalysis result comparisons. 160 annual urinalysis results agreed, while 21 did not. For these 21 results, approximately half the time there was no info, or lower values, in the eDB, while the NOCTS had a zero, or greater, results recorded. About half the time, it was the other way around. The differences in positive values were generally small.
- Of the 21 results not in agreement, some may be resolved by requesting better copies of the original datasheets from the KCP than are presently available in the NOCTS files.

CONCLUSIONS

SC&A found that when comparing the external dose and bioassay data in the KCP electronic database to the data on files in NOCTS (which are photocopies of the original data sheets), the data compared well, with a small error rate (approximately 4%); and that generally the discrepancies involved zero verses blank entries, or relatively small differences in doses or bioassay results. Some of these differences may be resolved by obtaining clearer copies of the original datasheets from the KCP.

Some of the comparison results obtained by SC&A do not exactly match those stated in NIOSH's report (NIOSH 2015c) because slightly different methods, or approaches, were used. However, the overall results and conclusions are compatible.

REFERENCES

NIOSH 2015a. *KCP database validation 11-6-15.xlsx*, National Institute for Occupational Safety and Health, Division of Compensation Analysis and Support, Cincinnati, Ohio, November 6, 2015.

NIOSH 2015b. *KCP Rad Dosimetry DatabaseSP1.mdb*, National Institute for Occupational Safety and Health, Division of Compensation Analysis and Support, Cincinnati, Ohio, November 12, 2015.

NIOSH 2015c. *KCP dosimetry database validation and verification (V&V)*, National Institute for Occupational Safety and Health, Division of Compensation Analysis and Support, Cincinnati, Ohio, November 12, 2015.

SC&A 2015. Memo to KCP WG: *Summary of KCP database V&V and DR#2 for 12Nov2015*, SC&A, Inc., McLean, Virginia, and Saliant, Inc., Jefferson, Maryland. November 11, 2015.