

Review of Special Exposure Cohort Evaluation Report for SEC-00217 – Westinghouse Electric Corporation Bloomfield , NJ

Work Group on Uranium Refining AWEs
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Operations at WEC

- August 1942–December 1949: WEC produced limited quantities of U metal via photochemical reaction of U nitrate or oxide with KF, also produced 200 lb of Th metal.
- February 1958–May 1958: WEC performed test rolling of U tubes for Fernald.
- June 1959: WEC performed additional test rolling of U tubes (NIOSH 2015).

SEC Status

- AWE workers added to SEC for 1st operating period (8/1942–12/1949) based on Petition SEC-00157 (NIOSH 2010).
- No approach for reconstructing doses during residual period (1950–2006) presented by NIOSH in ER of SEC-00157.
- New petition (SEC-00217) qualified by NIOSH on 1/8/2015 requesting that all employees who worked at WEC from Jan. 1950 to March 2011 be added to SEC.

SEC Status (cont.)

- Based on further review, NIOSH defined two additional operating periods and three residual periods (1/1/1950–1/31/1958; 6/1/1958–5/31/1959; and 7/1/1959–4/30/2000).
- NIOSH determined that doses could not be reconstructed for additional operating periods, so additional workers were added to the SEC.
- NIOSH determined that doses could be constructed for three residual periods (NIOSH 2015).

SC&A Evaluation of SEC-00217

- ABRWH tasked SC&A to review the ER for SEC-00217, focusing on residual periods only.
- Based on its review, SC&A developed two observations and two findings (SC&A 2015).

SC&A Evaluation of SEC-00217 (cont.)

- *Observation 1. Mode 2 ingestion exposures based on OCAS-TIB-009 [NIOSH 2004] should be adjusted for the duration of the work-day (i.e., 8, 8.8, or 9.6 hr) based on the dates on which the exposures occurred.*
- NIOSH response (5/24/16): Occupancy times will be adjusted (NIOSH 2016).

SC&A Evaluation of SEC-00217 (cont.)

- *Observation 2. The deposition time used in the Model DR (Spreadsheet 2015) is not consistent with that proposed on p. 37 of NIOSH 2015.*
- NIOSH Response (5/24/16): NIOSH will update the calculations for the third residual period.

SC&A Evaluation of SEC-00217 (cont.)

- *Finding 1. The procedure for calculating air concentrations during the 1st residual period is not consistent with the guidance provided in ORAUT-OTIB-0070.*
- NIOSH Response (5/24/16): NIOSH felt that this was a site profile issue, not an issue related to the SEC. The Work Group was in agreement on that approach.

SC&A Evaluation of SEC-00217 (cont.)

- *Finding 2. The guidance provided in OTIB-0070 (Section 3.6) for calculating doses during the residual period refers to OCAS-TIB-009 (NIOSH 2004). This guidance should be revised, since the OCAS-TIB-009 approach cannot be used to calculate ingestion intakes from transfer of surface contamination to the hands and then to the mouth. Use of the procedure in TIB-009 understates this source of ingestion. The calculations in the SEC-00217 ER for the 1st residual period should be modified accordingly.*
- This finding applies to all residual periods.
- NIOSH response (5/24/16): NIOSH agreed to modify ingestion intakes accordingly. Like Finding 1, this was also deemed to be a site profile issue.

Summary

- The two SC&A observations were resolved.
- Both findings were determined to be site profile issues.
- There was general agreement on the approach to addressing Finding 2, but Finding 1 will require additional review by NIOSH as to the preferred approach for addressing air concentrations during the residual periods at WEC.

References

- NIOSH 2004. *Estimation of Ingestion Intakes, Technical Information Bulletin*, OCAS-TIB-009, Rev. 0, National Institute for Occupational Safety and Health, Office of Compensation Analysis and Support, Cincinnati, Ohio. April 13, 2004.
- NIOSH 2010. *SEC Petition Evaluation Report for Petition SEC-00159, Westinghouse Electric Corp., Bloomfield, New Jersey*, National Institute for Occupational Safety and Health (NIOSH), Cincinnati, Ohio. January 14, 2010. [SRDB Ref ID: 118649]
- NIOSH 2015. *SEC Petition Evaluation Report for Petition SEC-00217, Westinghouse Electric Corp., Bloomfield, New Jersey*, National Institute for Occupational Safety and Health, Cincinnati, Ohio. April 14, 2015.
- NIOSH 2016. *Response to SC&A's Comments on SEC Evaluation Report for SEC-00217*, L. Rutherford (DCAS) and M. Sharfi (ORAU). May 24, 2016.
- SC&A 2015. *Review of Special Exposure Cohort Evaluation Report for SEC-00217*. July 2015