



Status of SRS Work Group Review of Savannah River Site SEC Evaluation for Subcontractor CTWs, 1991–2007

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SRS status: SEC-00103 review for subCTWs

- ◆ **July 12, 2021:** Board recommendation of Special Exposure Cohort (SEC) class for subcontractor construction trade workers (CTWs), 1972–1990 (Oct. 12, 2021, *Federal Register* designation date) (ABRWH, 2021)
- ◆ **April 22, 2022:** SC&A issued “Focused Review of ORAUT-RPRT-0092, Revision 00, and Remaining Petition SEC-00103 Evaluation Report Period: 1991–2007” (SC&A, 2022)
- ◆ **November 22, 2022** (SC&A receipt **January 5, 2023**): NIOSH issued response to SC&A’s focused review (NIOSH, 2022)
- ◆ **March 22, 2023:** Savannah River Site (SRS) Work Group meeting

Original SEC question before work group

- ◆ Deficiencies in permit-driven, job-specific bioassay program identified in the late 1990s
- ◆ Only 21% compliance with job-specific bioassay requirements in 1997
- ◆ Transient short-term subcontractors are the most likely (but not sole group) affected by the job-specific bioassay program
- ◆ Former worker interviews indicate that some subcontractors were brought in to do the work with higher exposure potential (NIOSH, 2017)
- ◆ **Key Question:** *Did deficiencies exist in the completeness of the job-specific bioassay program during years 1972–2007 that would preclude formulation of a representative co-exposure model?*

Designated SEC, 1972–1990

◆ **ABRWH recommendation letter, July 12, 2021:**

- “All construction trade employees of Department of Energy subcontractors [excluding employees of the following prime contractors who worked at the Savannah River Site in Aiken, South Carolina, during the specified time periods: E. I. du Pont de Nemours and Company, October 1, 1972, through March 31, 1989; and Westinghouse Savannah River Company, April 1, 1989 through December 31, 1990], who worked at the Savannah River Site from October 1, 1972 through December 31, 1990, for a number of work days aggregating at least 250 work days, occurring either solely under this employment or in combination with work days within the parameters established for one or more other classes of employees included in the Special Exposure Cohort.”

ABRWH SEC basis (1972–1990)

◆ **ABRWH recommendation letter, July 12, 2021:**

- “Subcontractor construction trades workers [CTWs] conducted a broad range of work activities They may have worked in high-contamination and high-airborne radioactivity areas and may have been utilized for short-term high-exposure work tasks.”
- “Subcontractor construction trades workers may have been ‘transient’ and not have worked for long periods at SRS and also may have been intermittently tasked with nonroutine radiological jobs under work permits, and thus were not likely enrolled in the routine (including termination) bioassay monitoring program.”

ABRWH SEC finding (1972–1990)

◆ ABRWH recommendation letter, July 12, 2021:

- “The Board finds there to be **insufficient information, including a lack of job-specific radio-bioassay monitoring data for subcontractor construction trades workers, and assurance of workplace monitoring and source term data**, to enable NIOSH to estimate with sufficient accuracy all potential internal doses from radionuclides associated with fuel handling, reactor operations, fuel reprocessing, and/or research activities, to which the proposed class may have been exposed during the time period in question” (emphasis added).

When did information become “sufficient” to enable DR with sufficient accuracy?

- ◆ Remaining SEC period for subcontractor CTWs: 1991–2007
- ◆ In its 2022 focused review, SC&A examined the following information for sufficiency based on prior SEC designation:
 - Westinghouse Savannah River Company Radiological Work Permit (RWP) and job-specific bioassay policies, procedures, and practices, and their implementation (trending numbers, percentages)
 - Assurance of workplace monitoring (data completeness: degree to which job-specific bioassays submitted)
 - Representativeness of scope and matching of radionuclides in RPRT-0092 sampling
- ◆ NIOSH delivered its response paper in November 2022

SC&A conclusion 1: Sampling premise is not sufficiently grounded in historical SRS practices

NIOSH response

- ◆ Transition between SRS operating contractors led to increasing RWP job-specific bioassays by procedure vs. RWP forms.
- ◆ Absence of bioassay requirements on RWPs is irrelevant.

Work group discussion

- ◆ Agreement that RWPs were evolving during implementation phase in early to mid-1990s.
- ◆ Disagreement persists on how bioassay performance rate should be calculated based on RPRT-0092 data.
- ◆ NIOSH contends that addressing RWPs and bioassay requirements on RWPs is not necessary for co-exposure modeling.

SC&A conclusion 2: Results for direct and effective monitoring may be overstated

NIOSH response

- ◆ Agrees that definition of “monitored” in RPRT-0092 is not applied consistently and all radionuclides were not addressed.
- ◆ These tallies were updated, but NIOSH conclusion that a co-exposure model can be constructed has not changed.

Work group discussion

- ◆ Addressed NIOSH’s concern that 80% matching threshold cited in SC&A review is “arbitrary.”
- ◆ It was pointed out that such subjective benchmarks for comparison had been used before by both SC&A and NIOSH.

SC&A conclusion 3: Generalized matching is not sufficient

NIOSH response

- ◆ For co-exposure modeling, coworkers used for effective monitoring matches need only have the same or higher exposure potential.
- ◆ SC&A's criteria of same RWP, same date, same time, same craft seen as far too restrictive.

Work group discussion

- ◆ SC&A presented the clarification that co-exposure matching for the purposes of RPRT-0092 (on an individual subCTW level) is different than that for co-exposure modeling for the entire site (general population) and that different crafts could be used if apparent that there was equal or greater potential for exposure.

SC&A conclusion 4: RWP-specified, job-specific bioassay data are incomplete

NIOSH response

- ◆ Noncompliance uncertainties are unknown.
- ◆ Noncompliance does not prevent development of co-exposure models.
- ◆ If the samples prescribed by site internal dosimetrist when a suspected intake occurred are part of NIOSH's co-exposure database, this is evidence that a bounding co-exposure model could be constructed.

Work group discussion

- ◆ NIOSH to provide "TRACK" database from SRS containing bioassay samples.
- ◆ Work group members clarified that these data (for cause, "special" bioassays) would be relevant to co-exposure model, but not to job-specific bioassay data completeness and representativeness review.
- ◆ NIOSH to corroborate site internal dosimetrist interview statements.
- ◆ Exposure data review for subCTWs proposed.

SC&A conclusion 5: Feasibility of co-exposure model needs to be balanced

- ◆ **NIOSH response:** Agree.
- ◆ **Work Group discussion:**
 - SC&A underscored that there has been no shift in its review focus: Both feasibility of dose reconstruction and feasibility of co-exposure modeling are predicated on demonstrating data completeness and representativeness, as called for by DCAS-IG-006.
 - SC&A's weight-of-evidence review seeks to balance job-specific bioassay data completeness and program assurance information as a basis for the work group's judgment on a suitable SEC cutoff milestone within 1991–2007.

Summary of work group actions

- ◆ Work group requested that NIOSH provide:
 - Independent corroboration of LaBone interview statements about 5Q1.1-506 interpretation and special monitoring programs
 - TRACK database, to verify inclusion of the most-highly-exposed workers in bioassay dataset by sometime in 1991
- ◆ Work group requested that SC&A work with NIOSH to propose framework for conducting analysis of exposure distribution for subcontractor CTWs at SRS for post-1990 period.
- ◆ SC&A will complete and issue its formal response to NIOSH's response paper.
- ◆ Work group review of prime contractor employees remains to be determined for the full 1972–2007 qualified evaluation report period and will be addressed following this current review of subCTWs.

References

Advisory Board on Radiation and Worker Health. (2021, July 12). Correspondence from Henry A. Anderson III, Chair, to Xavier Becerra, Secretary, Department of Health and Human Services.

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National Institute for Occupational Safety and Health. (2017, September 29). *Analysis of CTWs vs. subcontractor CTWs* [Email communication to J. Melius and B. Clawson, ABRWH].

National Institute for Occupational Safety and Health. (2022). *Response to SC&A's "Focused review of ORAUT-RPRT-0092, revision 00, and remaining petition SEC-00103 evaluation report period: 1991–2007"* [Response paper].

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