



# **NIOSH's Response to SCA-TR-2021-SEC004 and SCA-TR-2021-SEC005**

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Metals and Controls Work Group Meeting  
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# Overview

- Introduction
- NIOSH Responses
  - SCA-TR-2021-SEC004, “Metals and Controls Corp. Exposure Pathway Evaluation”
  - SCA-TR-2021-SEC005, “SC&A Commentary on NIOSH’s Approach to Quantifying Outdoor and Indoor Airborne Dust Loadings,”
- NIOSH Conclusion

# Introduction

# Introduction (1 of 2)

- On October 25, 2021, NIOSH received the SC&A report Metals and Controls Corp. Exposure Pathway Evaluation [SC&A 2021a], which provides SC&A's evaluation of the six exposure pathways
- NIOSH's response paper was issued on January 12, 2022
- The response paper addresses comments, observations, and findings from that review

## Introduction (2 of 2)

- As for the second paper, SCA-TR-2021-SEC005, *SC&A Commentary on NIOSH's Approach to Quantifying Outdoor and Indoor Airborne Dust Loadings*, NIOSH will refer to their previous presentation
- NIOSH's response paper was issued on January 12, 2022
- The response paper addresses comments from that review

**NIOSH Response to SC&A's Metals and Controls  
Corp. Exposure Pathway Evaluation and Dust  
Loading Commentary**

# SC&A Finding 1 - Building 10 subsurface external exposures not bounded (1 of 2)

- *SC&A finds that NIOSH's proposed external dose rate assumptions are inconsistent with the contamination levels assumed for the subsurface of Building 10. SC&A's independent calculations suggest dose rates from the modeled pathway are expected to be substantially greater.*

# SC&A Finding 1 - Building 10 subsurface external exposures not bounded (2 of 2)

- *NIOSH's 2017 SEC ER proposed using the 95th percentile dosimetry values (with adjustments for missed dose) of 200 mrem/year (16.7 mrem/month).*
- *SC&A believes it is more appropriate to assign elevated subsurface exposures inside Building 10 using the 95th percentile of the dosimetry with occupancy adjustments*

# NIOSH Response (1 of 2)

- Although SC&A recommends using the 95th percentile film-badge data for the indoor subsurface model, they do not recommend it for outdoor subsurface exposures because of their comparison to a value calculated using Federal Guidance Report (FGR) No. 12.
- NIOSH concludes using the actual soil contamination data workers were exposed to (as calculated by SC&A) is more appropriate for modeling subsurface exposures.

## NIOSH Response (2 of 2)

- NIOSH can use the dose coefficients for exposure to soil contaminated to an infinite depth tabulated in FGR 12 and the same soil contamination values used in our subsurface internal exposure model to assign doses
- If NIOSH changes the model, we will also use this method to model outdoor subsurface exposures to remain consistent

## SC&A Observation: Indoor and outdoor subsurface scenarios

- *SC&A reviewed the claimant interviews and does not believe that there is sufficient evidence to limit any individual's subsurface exposures to a single subsurface scenario.*
- *The interviews indicate that, irrespective of an individual's job title, they may have been asked to complete any task on site.*
- *SC&A believes that means an individual could have participated in both indoor and outdoor subsurface scenarios within a year*

# NIOSH Response – Subsurface exposure duration

- NIOSH's understanding of this observation is that SC&A recommends increasing the total subsurface exposures duration (combined indoor and outdoor) to four months
- Although this assumption is inconsistent with the interviews indicating two months total, NIOSH will consider this change
- This change would amount to four months of subsurface exposure, and NIOSH would assign the remaining eight months as “remaining exposures”

## SC&A Finding 2 - Welding prep resuspension factor

- *SC&A raised a concern (finding 2) in its 2019 (SC&A, 2019) and 2020 (SC&A, 2020b) reviews of welding and thorium activities that a resuspension factor of  $10^{-3}/m$  may not be adequate to represent the dust generated by grinding and wire brushing to prepare a surface for welding*
- *The work group members echoed this concern during the September 2, 2020, M&C Work Group meeting*
- *SC&A agrees that this is a "TBD issue" rather than an SEC issue*

# NIOSH Response – Resuspension Factor

- NIOSH believes a  $10^{-3}$  resuspension factor is representative and bounding for work activities and conditions at M&C
- Work activities are a distribution of actions in which the majority of resuspension factors in Table 3-1 of OTIB-0070 are sizably smaller (in most cases orders of magnitude smaller) than the proposed  $10^{-3}$  resuspension factor

# SC&A Exposure Pathway Conclusion

- *With the modifications suggested in the finding and observation, SC&A believes internal and external doses from each maintenance exposure pathway can be bounded*
- SC&A recommended NIOSH develop guidance for dose reconstructors
- NIOSH plans to turn the current DR methodology into a TBD
  - Guidance developed during this review will be incorporated into the TBD

For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

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