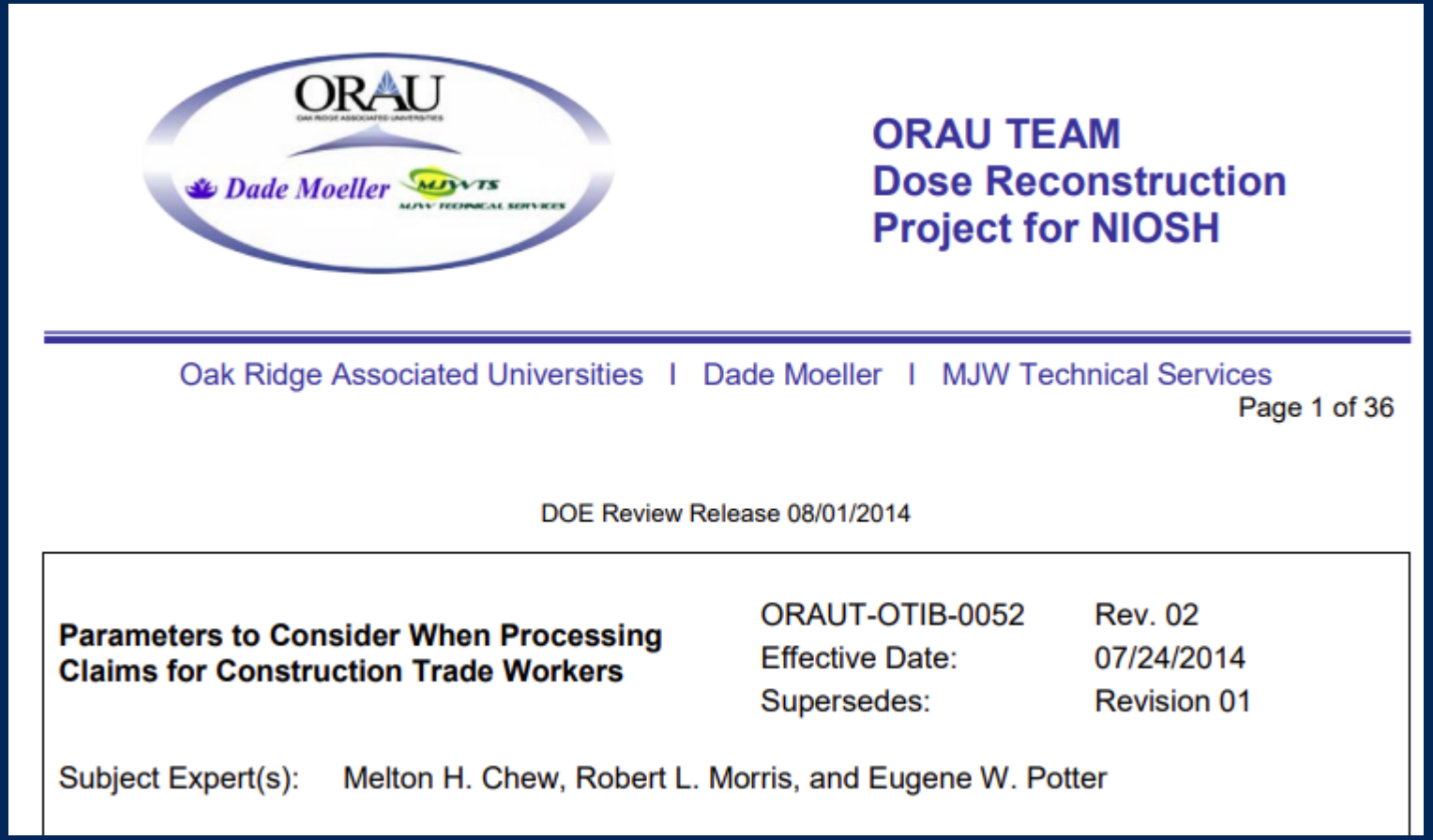
Answers to OTIB-0052 Questions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ORAU TEAM
Dose Reconstruction
Project for NIOSH

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Page 1 of 36

DOE Review Release 08/01/2014

Parameters to Consider When Processing Claims for Construction Trade Workers

ORAUT-OTIB-0052 Rev. 02
Effective Date: 07/24/2014
Supersedes: Revision 01

Subject Expert(s): Melton H. Chew, Robert L. Morris, and Eugene W. Potter

Brant Ulsh, Ph.D., Certified Health Physicist (CHP)
Research Health Scientist
Division of Compensation Analysis and Support (DCAS)
National Institute for Occupational Safety and Health (NIOSH)
April 29, 2026

What is OTIB-0052?

- This technical bulletin “provides guidance for performing dose reconstructions for unmonitored construction trade workers (CTWs)”.
- We investigated how external and internal annual doses received by CTWs compared to those received by all monitored workers (AMWs).
- We found that the internal and external annual doses received by the CTWs were usually bounded by those received by the AMWs.
  - The external annual doses received by the CTWs exceeded those of AMWs in a few instances.
  - In these instances, application of a ratio of 1.4 CTW-to-AMW external doses was claimant favorable.
- We apply this ratio until site-specific info becomes available!

SC&A **Presentation Handout**

History of Advisory Board Review of ORAUT-OTIB-0052

Meeting of the Subcommittee for Procedure Reviews

February 16, 2023

- ORAUT-OTIB-0052 rev. 00 PC-1 was issued in January 2007 and revised twice since. Rev. 2 is current version (2014).
- SC&A tasked to review ORAUT-OTIB-0052 rev. 00 in 9/2006, and subsequent revisions.
  - SC&A issued 16 findings and the Subcommittee on Procedures Review (SPR) has reviewed and closed all of them.
- The SPR presented to full Board in 12/2017.
  - The Board raised eight questions.
- We presented answers to SPR on 2026-01-28.

Questions and Answers

DEPARTMENT OF HEALTH & HUMAN SERVICES Public Health Service

Centers for Disease Control and Prevention (CDC)
National Institute for Occupational Safety and Health (NIOSH)
Division of Compensation Analysis and Support (DCAS)
PHONE: (513) 533-6800 / 1-877-222-7570
FAX: (513) 533-6826

DATE: March 6, 2025

TO: Josie Beach, Chair, Subcommittee for Procedures Reviews, ABRWH

FROM: Timothy D. Taulbee, PhD, CHP, DCAS Associate Director for Science

SUBJECT: Response to ABRWH questions regarding ORAUT-OTIB-0052

- The Board asked eight questions. In the slides that follow, I will present the questions, and condensed answers. For full answers, refer to the memo Dr. Taulbee wrote on 03/06/2025.

How were the CTW ratios established?

- We developed ratios by comparing the annual doses from five major Department of Energy (DOE) sites.
- We compared the annual doses from CTWs to annual doses from AMW and developed a ratio (CTW/AMW).
- This initial approach results in a reasonable overestimate of CTW exposures.
- The original goal was to provide a simple adjustment factor that could be applied to unmonitored CTWs as more refined co-exposure models are developed.

Is there validity in establishing such a ratio?

- The ratio is based on real data from real workers at real DOE sites.
- CTWs are a subset of AMWs, so we could simply use the data for AMWs.
  - This would be claimant neutral in a majority of years at a majority of sites.
  - But in a few specific years at a few specific sites, CTW doses would be underestimated by up to a factor of 1.4.
    - In these limited instances, estimating CTW doses using unadjusted AMW doses would not be claimant favorable.
- Applying the OTIB-0052 ratio to CTW doses is a reasonable overestimating approach.

What kind of evaluation quantitatively needs to be done when applying this or determining whether to apply this at a particular site?

- The only evaluation that needs to be done is to determine whether a worker meets the general occupational criteria of being considered a CTW.
- Some of the guidance in ORAUT-OTIB-0052 may no longer be applicable to a particular site and more site-specific guidance will be added to the Technical Basis Documents.

Who made the decision that we were going to put construction workers in a category of using coworker data?

- Around 2004, DCAS management made the decision to evaluate whether the exposures experienced by CTWs were, in general, significantly greater than, equal to, or less than other monitored workers.
- We solicited comments through worker outreach meetings.
  - Specifically, we received comments from the Central Washington Building and Construction Trades Council on 01/15/2005; and
  - We received comments from the Hanford PACE (Paper, Allied-Industrial, Chemical and Energy Workers) Local (Steelworkers and Guards) on 05/22/2005.
  - We incorporated these comments into the original version of ORAUT-OTIB-0052.

Why are we using coworker data for unmonitored workers, when it appears these people should just be put into a Special Exposure Cohort?

- Federal regulations (42 CFR § 82.17) direct NIOSH to use monitoring data from co-workers to supplement or substitute for individual monitoring data if monitored workers and unmonitored workers had a common relationship to the radiation environment.
- Special Exposure Cohort (SEC) status is supposed to be only for cases where NIOSH does not have information to reconstruct doses with sufficient accuracy. [42 CFR § 83.13(c)(1) and 42 USC § 7384q(b)(1)].
- SECs disadvantage some workers:
  - For example, claimants who have a non-SEC cancer;
  - Another example: claimants who don’t meet length of work requirements.

What is the science behind the 1.4 correction factor?

- The adjustment factor is the result of a weight of evidence approach.
- The AMW annual external doses were higher than the CTW annual external doses (i.e. ratio was less than 1.0) in general.
  - However, there were some years at some sites where the ratio inverted (i.e. CTW external doses were higher resulting in a ratio greater than 1.0).
  - During these inverted years, the ratio was generally less than 1.4, but not always.
- Assignment of an adjustment factor of 1.4 is a balanced, claimant favorable approach.

Do you apply correction factor to every job title in the construction industry?

- No, the Health Physicist performing the dose reconstruction evaluates whether to apply the adjustment factor.
- Professional judgement and information provided in the claimant file from the Department of Labor, monitoring records received from the Department of Energy, and the claimant interview (CATI) are used in the evaluation to determine whether the adjustment factor should be applied.

How is OTIB-0052 being used, and where is it being applied?

- ORAUT-OTIB-0052 is applicable at all sites where co-exposure/unmonitored values are given except for Pacific Proving Ground.
- The use of the OTIB-0052 adjustment factor is phased out as more refined co-exposure models are developed.

Conclusions

Conclusion

- OTIB-0052 “provides guidance for performing dose reconstructions for unmonitored construction trade workers”.
- The OTIB-0052 approach is a reasonable overestimate of CTW exposures, applied to unmonitored CTWs as more refined co-exposure models are developed.
- SC&A reviewed ORAUT-OTIB-0052 and issued 16 findings.
  - The findings were considered by the SPR and have now been closed.
- The SPR presented their conclusions to full Board in 12/2017, and eight questions were raised.
- NIOSH presented answers to SPR on 2026-01-28, and today we present the answers to the full Board.
- NIOSH proposes that the review of OTIB-0052 be formally closed by the Board.

Contact Info:

Brant Ulsh, Ph.D., CHP

Research Health Scientist

Division of Compensation Analysis and Support

National Institute for Occupational Safety and Health

Email: bau6@cdc.gov

Thank you.

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1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 https://www.cdc.gov/ | https://www.cdc.gov/niosh
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