Overview of

STANDARD COMPLEX-WIDE CONVERSION FACTOR FOR OVERESTIMATING EXTERNAL DOSES MEASURED WITH THERMOLUMINESCENT DOSIMETER
(ORAUT-OTIB-0008, Rev. 0)

Workers have the potential to receive a radiation dose to their bodies from external sources at many Department of Energy (DOE) and Atomic Weapons Employer facilities. A particular method of estimating the dose received is based upon available actual measurements of external dose taken at the time of worker exposure. One popular type of small radiation detector, known as a thermoluminescent dosimeter or TLD, was worn by workers on their clothing. Since the late 1980s, DOE has required that personnel dosimetry programs be accredited under the DOE Laboratory Accreditation Program, or under the National Voluntary Laboratory Accreditation Program. That requirement improves confidence in the accuracy of the dosimeter readings taken during and following that period.

This Technical Information Bulletin (TIB), *Standard Complex-wide Conversion Factor for Overestimating External Doses Measured with Thermoluminescent Dosimeter* (ORAUT-OTIB-0008), provides guidance on how to apply reasonable, overestimating, and complex-wide assumptions for interpreting recorded doses of monitored workers during the time period when the DOE laboratory accreditation program applied. The TIB analysis selects a reasonable overestimate of external radiation dose for cases which, based on the information contained in the claim, are not likely to be compensated. The procedure provides an efficient method for expediting a claim by quickly determining when even highly claimant-favorable calculations will not result in compensation.

SUMMARY OF FINDINGS RESULTING FROM THE TECHNICAL REVIEW

The technical contractor for the Advisory Board on Radiation and Worker Health (the Board) reviewed the TIB and produced the four findings summarized below:

Finding #1: The TIB lacks clarity and can be misinterpreted by personnel performing dose reconstructions.

Finding #2: The TIB contains excessive amounts of upfront background information and does not provide dose reconstructors with any guidance for its implementation until well into the text.

Finding #3: The procedure neither identifies its hierarchical position among other related procedures nor does it clarify whether the dose reconstructor has the option to use either this TIB or Attachment D-2 of other guidance, *External Dose Reconstruction* (ORAUT-PROC-0006).

Finding #4: The TIB fails to clarify that the use of the standard correction factor eliminates the need for uncertainty analysis.

RESOLUTION OF FINDINGS

In response to the findings identified above, the National Institute for Occupational Safety and Health (NIOSH) agreed that the TIB, and, as appropriate, ORAUT-PROC-0006, need to be revised to address the findings. These documents were subsequently revised and reviewed by the Board's technical contractor.

All issues were resolved to the satisfaction of the Board.