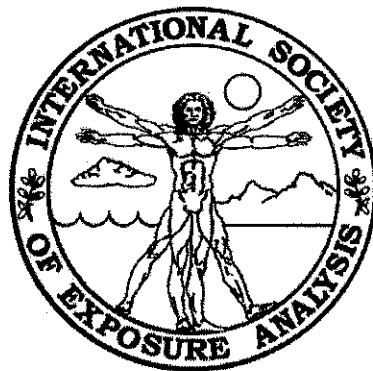


# ISEA 2005

15<sup>th</sup> Annual Conference of the  
International Society of Exposure Analysis



*Diversity of Exposure Analysis and the Southwest*

October 30th – November 3rd, 2005

Westin La Paloma Resort  
Tucson, Arizona, USA

## ABSTRACT BOOK

MONDAY

**PosterMp Occupational****Abstract M-30p****A Historical Review of Asbestos Exposures Among Skilled Craftsmen**

Pamela RD Williams, Dennis J Paustenbach, *ChemRisk*

This presentation provides a review and synthesis of the published literature on airborne concentrations of asbestos associated with specific tasks performed by skilled craftsman during the 1940s-1990s. Specific trades of interest include insulators, pipefitters, boilermakers, masons, welders, sheet metal workers, millwrights, electricians, carpenters, painters, laborers, maintenance workers, and abatement workers. Over 40 publicly available documents were identified and summarized. We find that although information is not available for all categories of interest, sufficient sampling data have been collected for those crafts and tasks likely to have had the greatest occupational exposure to asbestos. Specifically, airborne concentrations of asbestos were found to be the highest during the application and removal of asbestos-containing insulation, ranging from about 2-10 f/cc in the mid-1960s in non-shipyard industrial settings. Asbestos levels were found to be about two-fold greater in Naval shipyards and on board military vessels during this same time period, due to confined work environments and limited ventilation. Improved industrial hygiene practices initiated in the early 1970s, however, reduced asbestos exposures among insulators approximately 2 to 5-fold. For most tasks performed by other craftsmen, asbestos concentrations were found to typically range from about 0.01-1 f/cc from the 1970s to 1990s (although there were some exceptions). Although historical asbestos levels frequently exceeded the current OSHA permissible exposure limit (PEL) of 0.1 f/cc, measured asbestos concentrations generally did exceed contemporaneous occupational exposure limits (except in enclosed spaces on board military vessels). Despite a number of limitations associated with the interpretation of selected studies, the available air monitoring data can be used (in conjunction with other information) to reconstruct asbestos exposures for different craftsman over the last 50 years.