

## **Beyond the Dust: Workers' Perspectives on Enhancing Silica Exposure Control in Tunnel Construction**

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**Abstract :** The construction industry, particularly tunnel construction, exposes workers to respirable crystalline silica (RCS), which can cause incurable illnesses such as silicosis and lung cancer. Despite various control measures, exposures remain inadequately controlled. This research aimed to examine what workers on a tunnelling project in Australia think should be done to reduce exposure to dust to protect them from RCS exposure. A qualitative research approach consisting of interviews and focus group discussions was employed for this research. The preliminary analysis of the data reveals a diverse array of solutions proposed to address the different sociotechnical factors that present challenges for effectively reducing dust exposure. Solutions are proposed to address challenges such as cost, time pressure, low-risk perception, inadequate awareness, inadequate enforcement and compliance with personal protective equipment. The findings highlight the need to make dust control a level playing field for all contractors during the bidding process, with more collaboration and enforcement after the signing of contracts. The research highlights that although improvements have been made in the past years regarding dust controls, many opportunities exist to reduce worker exposure to RCS.

**Keywords :** tunnel, respirable crystalline silica, RCS, dust exposure, personal protective equipment, worker perspectives

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